Secondary Curriculum

Grade 12

Government of Nepal
Ministry of Education

Curriculum Development Centre

Sanothimi,Bhaktpur
Nepal

COMPULSARY ENGLISH *(ENG-51)*
GRADE:XII

Full marks 100
Teaching hours 150

I. Introduction

This course is a continuation of Grade XI English. It builds on to the language skills and communicative competence introduced in the previous year.

II. General Objectives

The general objectives of this course are:

a. to provide students techniques in the use of English for academic and communicative purposes,
b. to train them in the functional, notional and grammatical areas of English language use,
c. to make them see the relationship between structures and meaning, and
d. to teach them structures in a context.

III. Specific Objectives

The specific objectives of this course (Compulsory English II) are:

1. to teach students language use and functions,
2. to enable them to establish a link between structure and meaning,
3. to provide them with more examples of language in context, and
4. to engage them in more fruitful reading.

IV. Course Contents

The contents of this paper can be divided into two components:

1. Core English
2. Extensive Reading and Writing

The text for language skills has the following units:

- experience
- appearance
- relating past events
- attitudes and reactions
- duration
- reporting
- deduction and explanation
- advantages and disadvantages
- clarifying
- wishes and regrets
- events and sequence
- comparison

- processes
- prediction
- news

The texts for extensive reading are as follows:

Poems

1. William Stafford, "Travelling Through the Dark"
2. W.B. Yeats, "The Lamentation of the Old Pensioner"
3. William Shakespeare, "Full Fathom Five Thy Father Lies"
4. Ray Young Bear, "Grandmother"
5. Hopkins, "God's Grandeur"

Essays

6. Moti Nissani, "Two Long term Problems"
7. Marsha Traugot, "The Children Who Wait"
8. Martin Luther King, "I Have a Dream"
9. Ilene Kantrov, "Women's Business"
10. Liila, M and Barry, C. Bishop, "Hurried Trip to Avoid a Bad Star"
11. Germaine Greer, "A Child is Born"

Stories

12. Poe, "The Tell-Tale Heart"
13. Dylan Thomas, "A Story"
14. James Joyce, "The Boarding House"
15. G. Garcia Marquez, "The Last Voyage of the Ghost Ship"
16. Chekhov, "About Love"
17. Brothers Grimm, " Hansel and Gretel" and its ·variations

Play

1. W.B. Yeats, "Purgatory"

V. Evaluation Scheme

This paper carries 100 marks, which will be divided as follows:

Core English	60%
Extensive Reading and Writing	40%
Skill-wise the weight age will be as follows:	
Reading	40%
Writing	40%
Grammar and language use	20%

Short and long answer questions, questions on vocabulary, grammar and language use, composition, letter writing, essay writing, note making, summary writing, filling in the gaps, rewriting sentences, etc. will be used to assess students' achievement in their studies. Questions

will be set to test students' knowledge of the content of the textbooks as well as their ability to use the linguistic tools and skills outside the prescribed textbooks.

VI. PrescribedTexts

1. Doff, Adrian, Christopher Jones, Keith Mitchell (1984), *Meanings into Words* (Upper-Intermediate) Student's Book. Cambridge: Cambridge University Press.
2. Meanings *into Words* (Workbook). Cambridge: Cambridge University Press.
3. Lohani, Adhikari, & Subedi (1998). *The Heritage of Word,.* Kathmandu: M .K. Publisher.

VII. Reference books:

1. One of the following dictionaries:
   a. Cambridge International Dictionary of English, Cambridge: C.U.P. 1995.
   b. Collins COBUILD English Dictionary (New Edition). London : Harper collins, 1995.
   c. Longman Dictionary of Contemporary English (Third Edition) Harlow: Longman Group, 1996
   d. Oxford Advanced Learner's Dictionary (Fifth Edition) Oxford: O.U.P. 1996.
2. Swan, Michael (1984), *Basic English Usage.* Oxford: 0. U, P.
3. Doff, Adrian, Christopher Jones,. Keith Mitchell (1984), *Meanings into Words* (Upper-intermediate)) Teacher's Book Cambridge: Cambridge University Press.
4. (1984) *Meanings into Words* (Upper-Intermediate) Cassette (Student's Book) Cambridge: Cambridge University Press.
5. (1984) *Meanings into Words,* (Upper-Intermediate) Cassette (Drills).

***PHYSICS**

Grade: XII

Teaching hours: 150T + 50P *Full marks: 100 (75T + 25 P)*

Nature of course: Theory +Practical *Pass Marks: 27T* +8P

1. Introduction

The curriculum in Physics is designed to provide students with understanding of the scientific laws and principles of the physical world. as expected this curriculum will provide an opportunity to the students to physics as a contribution to life in modern society.

The course demands emphasis on conceptual understanding of the physical phenomena. This will involve the proper utilization of suitable mathematical models and equations. The applications of the physics together with the social and environmental aspects need to be emphasized whenever possible. The students are expected to actively participate in the learning process trough experimentation supplemented by demonstration, discussions and problem solving.

The practical component of this course is designed to supplement learning through the application of the learned theory. The students will handle simple apparatus to do simple measurements, verifies physical laws and apply the knowledge of physics to real life example.

2. Objectives

2.1 General objectives

The general objectives of this course are:

a) to provide students with sufficient understanding and knowledge of the fundamental principles of physics and their applications;
b) to develop the skills of experimenting, observing, interpreting data evaluating evidence and formulating generalizations and models; and
c) to explain the social, economic, environmental and other implications physics and appreciate the advancement of physics and its applications as essential for the growth of national economy.

2. 2 Specific Objective

Upon completion of this course, the students will be able to:

1. describe physics as a coherent and developing framework of knowledge based on fundamental theories of the structure and process of the physical world;
2. explain phenomena in terms of theories and models;
3. apply quantitatively and qualitatively the knowledge and understanding of physical principles and theories;
4. translate information from one from to another;
5. present information in the language of physics or other appropriate form; and

6. design simple experiment to develop relations among physical quantities and draw conclusions.

3. Course Content

Unit-1 Waves and Optics **40 Teaching Hours**

Waves **(23 Hrs)**

1. *Wave* motion- Wave motion; Longitudinal and transverse waves; Progressive and stationary waves; Mathematical description of a *wave* (4 hrs)
2. Mechanical waves- Speed of wave motion; Velocity of sound in solid and liquid; Velocity of sound in gas; Laplace's correction; Effect of temperature, pressure, humidity 'On velocity of sound. (5 hrs)
3. Wave in pipes and strings- Stationery waves in closed and open pipes; Harmonics and overtones in closed and open organ pipes; End correction in pipes; Resonance Tube experiment; Velocity of transverse waves along a stretched string; Vibration of string and overtones; Laws of vibration of fixed string. (6 hrs)
4. Acoustic phenomena- Sound waves: Pressure amplitude; Characteristics of sound: Intensity; loudness, quality and pitch; Beats; Doppler's effect; Infrasonic and ultrasonic *waves;* Noise pollution: Sources, health hazard and control. (18 hrs)

Physical Optics **(17 Hrs)**

1. Nature and propagation of Light- Nature and sources of light; Electromagnetic spectrum; Huygen's principle, Reflection and Refraction according to wave theory; Velocity of light: Foucault's method; Michelson's method. (6 hrs)
2. Interference- Phenomenon of Interferences; Coherent sources; Young's two slit experiment; Newton's ring. (4 hrs)
3. Diffraction- Diffraction from a single slit; Diffraction pattern of image Diffraction grating;Resolving power of optical instruments. (14 hrs)
4. Polarization- Phenomenon of polarization; Brewster's law; transverse nature of light; Polaroid. (13 hrs)

Unit-2 Electricity and Magnetism **55 Teaching Hours**

Current Electricity **(20 Hrs)**

1. *D.C.* Circuit- Electric Currents; Drift velocity and its relation with current; Ohm's law; Electrical Resistance; Resistivity; Conductivity; Super conductors; Perfect Conductors; Current-voltage relations; Ohmic and Non-Ohmic resistance; Resistances in series and parallel, Potential Divider, Conversion of galvanometer into voltmeter and ammeter, Ohmmeter; Electromotive force: Emf of a source, internal resistance; Work and power in electrical circuits; Joule's law and its verification. (9 hrs)

2. Electrical circuits-Kirchhoffs laws; Wheatstone bridge circuit; P.O.Box, Meter Bridge; Potentiometer; Comparison of e.m.f's., measurement of internal resistance of a cell. (7 hrs)
3. Thermoelectric Effect- Seebeck Effect; Thermocouples, Peltier effect: Variation of thermoelectric emf with temperature, Thermopile, Thomson effects. (2 hrs)
4. Chemical effect of current- Faraday's laws of electrolysis; Faraday's constant, Verification of Faraday laws of electrolysis. (2 hrs)

Magnetic Field of current (35 hrs)

1. Magnetic Field-Magnetic field lines and magnetic flux; Oersted's experiment; Force on moving charge, Force on Conductor; Force and Torque on rectangular coil, Moving coil galvanometer; Hall effect Magnetic field of a moving charge; Biot and Savart law and its application to (i) a circular coil (ii)a long straight conductor (iii) a long solenoid Ampere's law and its application to (i) a long straight conductor (ii) a straight solenoid (iii) a toroidal solenoid; Forces between two parallel conductors carrying current-definition of ampere**.** **(14 hrs)**
2. Magnetic properties of materials-Elements of earth magnetism and their variation; Dip and Dip circle: Flux density in magnetic material; Relative permeability; Susceptibility; Hysteresis, Dia,-Para- and Ferro-magnetic materials. (5 hrs)
3. Electromagnetic Induction-Faraday's laws; Induced electric fields; Lenz's law, Motional electromotive force; AC generators; eddy currents; self inductance and Mutual inductance; Energy stored in an inductor; Transformer. (8 hrs)
4. Alternating Currents- Peak and RMS Value of AC current and voltages, AC through resistor, capacitor and inductor; Phasor diagram, Series circuits containing combination of resistor, capacitor and inductor; Series Resonance, Quality factor; Power in AC circuits: Power factor; choke coil. (8 hrs)

Unit-3 Modern Physics 55 teaching hours

1. Electrons and Photons-Electrons: Milikan's oil drop experiment, Gaseous discharge at various pressure; Cathode rays, Motion of electron beam in electric and magnetic fields·: Thomson's experiment to determine specific charge of electrons.
   Photons: Quantum nature of radiation; Einstein's photoelectric equation; Stopping potential; Measurement of Plank's constant, Milikan's experiment (10 hrs)
2. Solids and Semiconductor devices- Structure of solids; Energy bands in solids (qualitative ideas only); Difference between metals, insulators and semi-conductors using band theory; Intrinsic and extrinsic semiconductors; P-N Junction; Semiconductor diode: Characteristics in forward and reverse bias; Full wave rectification; Filter circuit; Zener

diode; Transistor: Common emitter characteristics, Logic gates; NOT, OR, AND, NAND and NOR. , Nanotechnology (introductory idea) (11 hrs)

3. Quantization of energy-Bohr's theory. of hydrogen atom; Spectral series; Excitation and ionization potentials; Energy level; Emission and absorption spectra, De Broglie Theory; Duality; Uncertainly principle.
   Lasers: He- Ne laser, Nature and production, properties and uses.
   X-rays: Nature and production; uses: X-rays, X-rays diffraction, Bragg's law. (9 hrs)
4. Nuclear physics- Nucleus: Discovery of nucleus; Nuclear density; Mass number; Atomic number; Atomic mass; Isotopes; Einstein's mass-energy relation, Mass Defect; Binding energy; Fission and fusion. (6 hrs)
5. Radioactivity-Alpha-particles;, Beta-particles, Gamma rays; Laws of radioactive disintegration; Half-life and decay constant; Geiger-Muller Tube; Radio carbon dating; Medical use of nuclear radiation; Health hazards and safety precautions. (7 hrs)
6. Nuclear energy and other sources of energy- Sources of energy; Conservation and degradation of energy; Transformation of energy.
   Nuclear energy: Energy released from fission and fusion; Thermal and Hydroelectric power; Wind energy; Bio fuels; Solar energy; Solar constant; Solar devices; Global energy consumption pattern and demands; Energy use in Nepal.
   Fuels and pollution: Global Warming; Acid rain. (9 hrs)
7. Particle physics and cosmology- particles and antiparticles, Quarks and Leptons, baryons, mesons.
   Universe: Hubble law; Big Bang; Critical density; Dark matter, (3 hrs)

Practical

A student will perform at least 24 experiments from the given list:

Introduction

General instruction: Students are expected to learn general ideas of errors, order of accuracy and graphical analysis. Students are also expected to learn the physical principles and theory of experiments on magnetism not covered in the theory curriculum.

List of experiments

A. Wave and Optics

1. Determination of the wavelength of sodium light by measuring the diameter of Newton's rings.
2. Determination of the wavelength of a given monochromatic source of light by passing a plane, diffraction grating.
3. Determination of the refractive index of a given transparent medium and calculation of the speed of the light in the medium.
4. Uses of laser beams:

i.Determination of the wavelength of He-Ne laser ilght
ii . Determination of the diameter of a given hair

5. Uses of Sonometer:
   i. Determination of the frequency of a given tuning fork
   ii Comparison of frequencies of two tuning forks
6. Determination of the frequency of A. C. Mains.
7. Use of Resonance tube:
   i. Determination of velocity of sound in air at NTP
   ii Comparison of frequencies of two tuning forks
8. Determination of the end correction of the resonance tube apparatus.

B. Electricity

9. Verification of Ohm's Law
10. Use of P.O. Box:
    i. Determination of the resistivity of the material of a given wire
    ii Verification of the laws of series and parallel resistances
11. Use of meter bridge:
    i. Comparison of resistances of two given wires
    ii Determination of the resistivity of the material of a given wire
    iii Verification of the laws of series and parallel resistances
12. Determination of high resistance by substitution method.
13. Determination of the capacitance of the capacitor by charging and discharging a capacitor.
14. Use of potentiometer:
    i. Comparison of emf's of two cells
    ii . Comparison of resistances of two given wires
    iii Determination of the internal resistance of a cell
15. Conversion of given galvanometer into an ammeter and a voltmeter of desired range.
16. Calibration of a given ammeter and voltmeter.
17. Determination of the half-life of a circuit containing a pure capacitor in series with a resistance in a D. C. circuit.
18. Uses of a series LCR circuit:
    i. Determination of the resonant frequency of a series LCR circuit
    ii Determination of the. quality factor of a series LCR circuit

C. Magnetism

19. Determination of the pole strength and magnetic moment of a bar magnet by locating the neutral points keeping:
    i. North pole pointing towards the geographical south
    ii North pole pointing towards the geographical north
20. Use of deflection magnetometer:

i. Determination of the pole strength and magnetic moment, of a bar magnet

ii Comparison of the magnetic moments of two bar magnets

21. Use of oscillation magnetometer:

i. Determination of the pole strength and magnetic moment of a bar magnet

ii Comparison of the magnetic moments of two bar magnets

22. Use of dip circle: .

Determination of the angle of dip in the laboratory

D **Modern Physics**

23. Study the characteristics of a junction diode.
24. Study the characteristics of a transistor.
25. Study the characteristics of a Zener diode.
26. Determination of Planck's constant using a photocell ·

List of Activities

1. To assemble a household circuit comprising three bulbs, three switches, a fuse and a power source. Measure current and voltage across each component and then interpret the data.
2. To use multi meter to (a) identify base of transistor and terminal of IC (b) Check whether a given electronic component {e.g. diode, transistor, and IC} is in working order.
3. To study the relation between frequency and length of a given wire under constant tension using sonometer.
4. To study AND, OR, and NOT gates.
5. To identify the difference between e.m.f. and p.d. of a cell.

Note: The above are only the specimens of activities. In order to arose creativity, the students must be encouraged to take up new (other than mentioned above) in consultation with the teacher concerned.

Laboratory Manual

I. Certificate Level Physics Practical Guide, U.P. Shrestha, Ratna Pustak Bhandar, Kathmandu

II. Elementary Practical Physics, Dr. Narayan Hari Joshi, Taleju Prakashan

4. Teaching strategies:

- Lecturing
- Group interaction
- Problem solving
- Demonstration
- Evaluation

5. Instructional materials

OHP, LCD, demonstration kits, writing boards etc.

6.Evaluation Scheme

Unit	Teaching Hours	LAQ	SAQ	NP	Mark Distribution			Total
					LAQ	SAQ	NP	
Electricity and magnetism	55	¾	4/5	2/3	4*3	2*4	4*2	28
Modern Physics	55	¾	4/5	2/3	4*3	2*4	4*2	28
Waves and sound	21	½	½	1/1	4*1	2*1	4	10
Physical Optics	19	½	½	1/1	4*1	2*1	3	9
Total	150	8/12	10/14	6/8	32	20	23	75

Note:
LAO: Long-answer Questions
SAO: Short-answer Questions
NP: Numerical Problems

a. In the table, numerator denotes the number of questions to be attempted and denominator denotes the number of questions asked. For example, 3/4 means 3 questions are to be answered out of 4 questions.
b. There will be three groups A, B and C. Group A contains short-answer questions (SAQ), group B long-answer questions (LAO) and group C numerical problems (NP)
c. Each of SAQs carries 2 marks, each of LAOs carries 4 marks and each of numerical problems carries 4 marks except in Physical Optics for which it carries only 3 marks.
d. Short answer questions should cover the entire course as far as possible. These questions should be of conceptual type.

Practical
Every student will perform at least 20 experiments and 4 activities during the academic year.

7. Evaluation Scheme for Practical examination:

One experiment	12 marks
One activity	3 marks
Practical record of experiments and activities	5 marks
Viva on experiment and activity	5 marks
Total	25 marks

Reference books:

1. University Physics, Sears F.W, M.W. Zemansky, H.D. Young and R.A. Freedman, 11th edition, Pearson Education Singapore, 2004.
2. Advanced Level Physics, Nelkon and Parker, Heimesmann Education book Ltd., 2000.

3. Advanced Level Physics Tom Duncan, John Murray Ltd, 2000.
4. Paudyal, Devi Dutta et.al, Fundamentals of Physics-XII, Bhundipuran Prakashan, Ktm.

Chemistry
Grade: XII

Full Marks: 100(75 T+25P)
Pass Marks: 27T+70P
Teaching Hours: 150T+50P

I. Introduction

Chemistry is concerned with the physical and chemical characteristics of substances, the nature of matter and the study of chemical reactions. Chemistry, thus, is a powerful process of uncovering and extending our understanding of various chemical phenomena. The power resides in the combination of concepts and experiments involving careful observation and quantitative measurements under controlled conditions. The resulting concepts suggest further experiments and investigations as a result, there will be a modification of the existing concept leading to a creativity of thought. This creativity involves the recognition of a problem; formulation of ideas to solve the problem and ultimately refinement of the original ideas. The present curriculum aims to foster this uniqueness among students by enabling them to study both theoretical and practical aspects of chemistry.

This course is theory-cum-practical. It is intended to consolidate learning in chemistry achieved in the secondary school. Furthermore, it intends to provide a concrete knowledge and appropriate skills for those students, continuing further studies in chemistry and students not studying the subject beyond this stage. The course seeks to maintain a balance between useful facts, concepts and theories which will facilitate understanding of the properties of substances, reactions and processes. Emphasis is enforced to stimulate, create and sustain students' interest in chemistry.

Chemistry being an experimental science, laboratory is an essential component of its syllabus. The course intends to make students aware of the importance of scientific method for accurate experimental work and develop the abilities to interpret, organize and evaluate data in order to make decisions and solve problems.

II. General Objectives

The general objectives *of* this *course are to:*

1. apply appropriate chemical principles, concepts, theories, definitions, laws, models and patterns to interpret, draw conclusion, make generalization, and predictions from chemical facts, observations and experimental data;
2. select appropriate facts to illustrate a given principle, concept, theory, model and pattern
3. present chemical ideas in a clear and logical form; and
4. select and organize data and perform calculations in which guidance on the method is not supplied.

III. Specific Objectives

After studying the course, the student shall be able to :

1. state and apply fundamental facts and principles of chemistry dealing with the

i. Methods of preparation: general, laboratory and industrial process of the matters,
ii. Physical and chemical properties,
iii. Important applications.

2. perform chemical calculations;
3. identify the mineral resources of Nepal;
4. understand chemical patterns and principles;
5. apply knowledge and understanding of chemistry in familiar and unfamiliar situations;
6. make accurate observations and measurements, being aware of possible sources of error;
7. record the results of experiments accurately and clearly; draw conclusion and make generalization from experiment ; and
8. appreciate the scientific, social, economic, environmental and technological contributions and applications of chemistry.

General & Physical Chemistry (Section A)

Unit 1: Chemical Bonding and Shape of Molecules -

3 teaching hours

1. Hybridization and concept of sigma and pi bond
2. Valence shell Electron Pair Repulsion (VSEPR) theory
3. Prediction of molecular geometry (Shape of molecules) on the basis of VSEPR and hybridization. (BeF_2, BF_3, NH_3, H_2O, CH_4, H_2O, C_2H_2 C_2H_4 H_2S)

Unit 2: Volumetric Analysis **8 teaching hours**

1. Different ways of expressing the concentration of solutions
   i. Molarity, ii.Normality iii.Molality iv.Gram/Liter v. Percentage
2. Titration : i. acid-base titration
   ii. Redox titration
3. Primary standard substances, primary standard solution , secondary standard solution, end point, equivalence point, neutral point, indicators
4. Derivation of normality equation
5. Relation between normality and molarity
6. Selection of indicators in acid-base titration and P^H curve
7. Solving related numerical problems

Unit 3: Ionic Equilibrium **12 Teaching hours**

1. Introduction
2. Ionization of weak electrolyte (Ostwald's dilution law)
3. Degree of ionization and ionization constant
4. Strength of acids and base interm of K_a, K_b and pK_a and pK_b values
5. Acid-base concept
   i. Arrhenius concept of acids and bases.

ii. Bronsted lowrry concept of acids and bases
iii. Lewis concept of acids and bases.

6. Ionization of water, pH and pH scale.·
7. Hydrolysis of salts. (qualitative concept)
8. Solubility product principle and its application
9. Common ion effects and its application
10. Application of solubility product principle m
11. Buffer Solution

(Solving numerical problems related with solubility, solubility product, pH pOH)

Unit 4: Electrochemistry - 10 teaching hours

1. Introduction
2. Electrolysis; strong and weak electrolyte
3. Arrehenius theory of ionization
4. Faraday's laws of electrolysis
5. Criteria of product formation during electrolysis
6. Electrolytic conduction, equivalent and molar conductivities
7. Variation of conductivity with concentration
8. Electrode potential, standard electrode potential, standard hydrogen electrode and its applications
9. Electrochemical series and its use to predict the feasibility of redox reaction
10. Electrochemical cell (Galvanic cell)
11. EMF of electrochemical cell in the standard state (Solving related numerical problems)

Unit 5: Energetics of Chemical Reactions 8 Teaching hours

1. Introduction, unit of energy
2. Some thermo dynamical tem1s: system, surrounding , boundary, universe different types of system, state function, state variables and internal energy
3. Exchange of energy between the system and surrounding
4. Different types of thermodynamic process
5. The first law of thermodynamics
6. Sign convention of heat and work
7. Enthalpy, enthalpy change in chemical reactions
8. Hess's law of constant heat summation
9. Heat of neutralization, heat of solution, heat of combustion, heat of vaporization, heat of formation and bond energy (Solving related numerical problems)

Unit 6: Chemical Thermodynamics 6 Teaching hours

1. Spontaneous process
2. Second law of thermodynamics

3. Entropy and its physical concept
4. Entropy change in phase transformation
5. Entropy and spontaneity
6. Entropy changes and their calculation
7. Gibb's free energy and prediction for the feasibility of reaction
8. Standard free energy change and equilibrium constant
9. Influence of temperature on spontaneous process

(Calculation involving in standard free energy change and equilibrium constant)

Unit 7: Chemical Kinetics· - 1**0 Teaching hours**

1. Concept of reaction rate
2. Average rate and instantaneous rate of a reaction
3. Factors that influences the rate of reaction
4. Rate law equation, rate constant and its units
5. I^{st} order, II^{nd} order, III^{rd} order and zero order reactions
6. Order and molecularity of a reaction
7. Integrated rate law for a first order reaction
8. Half-life of a reaction (first order)
9. Explaining the increase in reaction rate with temperature or collision theory (qualitative concept only)
10. Concept of activation energy as the energy barrier, activated complex and effect of catalyst on the rate of reaction (Solving related numerical problems)

Organic Chemistry
Section B

Unit 8: Aromatic Hydrocarbon - 3 **teaching hours**

1. Definition, characteristics of aromatic compounds, Huckel's rule, structure of benzene, isomerism and orientation of benzene derivatives
2. Preparation of benzenes from
   i. decarboxylation ii. phenol iii. ethyne IV. chlorobenzene
3. Physical properties of benzene
4. Chemical properties of benzene
   i. Addition reaction : hydrogen, halogen and ozone
   ii. Electrophilic substitution reactions: nitration, sulphonation, Halogenation Friedal craft's alkylation and acylation
   iii. Combustion of benzene and uses

Unit 9: Haloalkanes and Haloarenes - 8 **teaching hours**

9.1. Haloalkanes:

1. Introduction, classification and isomerism
2. Preparation of monohaloalkanes from alkanes, alkenes and
3. Physical properties of monohaloalkanes
4. Chemical properties

- Substitution reactions
- Elimination reaction (dehydrohalogenation)
- Grignard's reactions
- Reduction reactions
- Wurtz's reaction

5. Polyhaloalkane ;

- Laboratory preparation of trichloromethane from ethanol and proponone
- Physical properties of trichloromethane
- Chemical properties : oxidation reduction, action on Silver Powder, con. nitric acid, propanone, aqueous alkali, Carbylamine reaction , Remer Tiemann reaction , Iodiform reaction, etc.

9.2. **Haloarenes:**

- Preparation of chlorobenzene from i. benzene ii. Benzene diazonium chloride
- Physical properties
- Chemical properties

– Low reactivity of haloarene as compound to haloalkane in term of nucleophilic substitution reaction
– Reduction of chlorobenzene
– Electrophilic substitute reactions
– Action with Na, Mg and chloral etc.
– Uses

Unit 10: Alcohols and Phenols - 10 teaching hours

10.1. Alcohols:

1. Introduction, classification, nomenclature and isomerism
2. Distinction of primary, secondary and tertiary alcohol by Victor Mayer's Method
3. Preparation of monohydric alcohols from i. haloalkan ii. Grinard's reagents using aldehydes and ketones iii. primary amines iv. Ester
4. Industrial preparation ethanol form: i. Oxoprocess ii. Fermentation of sugar hydroboration of ethane
5. Physical properties monohydric alcohols
6. Chemical properties of monohydric alcohols
   – Reaction with HX. PX_3, PCl_5 $SOCl_2$
   – Action with reactive metals like Na, K, Li
   – Esterification process

- Dehydration of alcohols.
- Oxidation of primary, secondary and tertiary alcohol with oxidizing agents.
- Reduction of alcohols (Catalyic dehydrogenation)
- Laboratory test of ethanol
- Absolute alcohol, methylated spirit, rectified spirit; alcoholic beverage.

- Preparation and uses of ethan- 1, 2. diol (glycol)
- Preparation and uses of Propan- 1, 2, 3 triol (glycerol)

10.2. Phenols:

1. Introduction to phenol
2. Preparation of phenol from i. chlorobenzene ii. Diaonium salt and iii. benzene sui phonic acid
3. Physical properties of phenol
4. Chemical properties

Acidic nature of phenol

ii. Diazonium salt and

- Action with $PC1_5$, PX_3, NH_3, Zn, Na benzene diazonium chloride
- and phthalic anhydride
- Acylation reaction, Kolbe's reaction, Reimer Tiemann's reaction
- Electrophilic substitution: halogenation, nitration, sutphonation, brominaiton and Friedal Craft's alkylation
- Laboratory test of phenol
- Uses of phenol

Unit 11. Ethers - 4 teaching hours

11.1 Aliphatic Ethers:

1. Introduction, nomenclature classification, isomerism in ether
2. Preparation of ethers from i. alcohol ii. Williamson's etherification process
3. Laboratory preparation of ethoxy ethane form ethanol
4. Physical properties of ether
5. Chemical properties of etherxyethane

- action with HI, PCL_5, con. HCL, Conc. H_2SO_4 air and CL_2

- Uses of ethoxy ethane

11.2 Aromatic Ether:

- Preparation of methoxy benzene (anisole)
- Halogenation, nitration and sulphonation reactions

Unit 12: Aldehydes and Ketones - 11 teaching hours

12.1 Aliphatic Aldehydes and Ketones

1. Introduction, structure of carbonyl group, nomenclature and isomerism in carbonyl compound
2. Preparation of aldehydes and ketones from
   i. Dehydrogenation and oxidation of alcohol
   ii. Ozonolysis of alkenes
   iii. Acid chloride
   iv. Gem dihaloalkane
   v. Calalytic distillation of fatty acid
   vi. Distillaiton of salt of fatty acid
   vii. Calalyic hydration of alkynes
3. Physical properties
4. Chemical properties
   1. Addition reaction: addition of H,, HCN, NaHS03 and Grignand's reagents
   2. Action with ammonia derivatives; NH_2OH, NH_2-NH_2, phenyl hydrazine, semicarbazides and 2,4- DNP
   3. Reduction properties of aldelydes
      - Oxidation with Tollen's reagent, Fehling's solution
4. Aldol or condensation reaction; clemennson's reduction Wolf- Kischner reduction, Action with PCI_5, action with $LiAlH_4$
5. Special reaction of methenal; cannazzaro's reaction, action with ammonia, action with phenol. formalin and its uses

12.2 Aromatic Aldelydes and Ketones :

- Preparation of bcnzaldelyde from toluene
- Properties of benzaldelyde
- Important reaction benzaldelyde different form aliphatic aldelydes:

– Perkin condensation
– Benzoin condensation
– Elcctrophilic substitution reaction
– Cannizzaro's reaction

• Preparation of acetophenone by Friedal Craft's acylation

Unit 13: Carboxylic Acids - 10 teaching hours

13.1 Aliphatic Carboxylic Acids:

• Introduction, nomenclature, examples
• Preparation of monocarboxylic acids from
i. aldehydes ii. nitrites iii. Grignard's reagents iv. dicarboxylic acid
v. sodium alkoxide. vi. trihaloalkanes

• Physical properties of monocarboxylic acids

• Chemical properties: Action with alkalies metal oxides, metal carbonates, metal bicarbonates, PCl_3, $LiAlH_4$ and dehydration of carboxylic acid, esterification, halogenation.

• Effect of constituents on the acidic strength of carboxylic acid

• Laboratory preparation of methanoic acid

• abnormal behaviour of methanoic acid

• Uses of carboxylic acid

13.2 Derivatives of Carboxylic Acid:

1. Nomenclature, preparation and properties of

i. Acid halides ii. Acid amides iii. Acid anhydrides and iv. Esters

13.3 Aromatic Carboxylic Acids:

- Preparation of benzoic acid
- Physical and chemical properties
- Uses of benzoic acid

Unit 14: Nitro compounds: - 4 teaching hours

14.1 Aliphatic Nitrocompounds (Nitroalkane):

2. Introduction and nomenclature
3. Preparation from haloalkane and alkane
4. Physical properties
5. Reduction of nitroalkane
6. Uses

14.2 Aromatic Nitrocompounds:

1. Laboratory preparation of nitrobenzene
2. Physical properties
3. Chemical properties
   - Reduction in different media
   - Electrophilic substitution reactions
   - Uses of nitrobenzene

Unit 15: Amino Compounds (Amines and Aniline) 7 teaching hours

15.1 Aliphatic Amines:

1. Introduction, nomenclature and classification
2. Separation of primary, secondary and tertiary amines by Hoffmann's method
3. Preparation of primary amines form haloalkane , nitriles, nitroalkanes and amides

4. Physical properties
5. Chemical Properties: basicity of amines, comparative study of basic nature of 1°,2° and 3° amines. Reaction of Primary amines with chloroform, cone. HCl, R-X, RCOX and nitrous acid ($NaNO_2$, / HCl)
6. Test of 1°, 2° and 3° amines. (nitrous acid test)

15.2 Aromatic Amine (Aniline):

1. Laboratory preparation of aniline
2. Physical properties
3. Chemical properties: bassicity of aniline, comparision of basic nature of aniline with aliphatic amines; alkylation , acylation , diazotization, carbylamine and coupling reaction
4. Electrophilic substitution : Nitration sulphonation and bromination
5. Uses of anitne

Unit 16: Molecules of Life - 8 teaching hours

1. Carbohydrates: definition, classification of carbohydrates, various examples of carbohydrate of different class. structure and glucose and fructose, function of carbohydrates , sugar and non-sugar

3. Nucleic acid: definition, basic components of nucleic acid; doule helix, difference between RNA and DNA; biological function of nucleic acid

4. Lipid: definition, fatty acids, fat as ester of fatty acid and difference between fats and oils, function of lipid

5. Enzymes and their functions

Unit 17: Chemistry in Service to Mankind - 10 teaching hours

1. Polymer: definition, natural and synthetic polymers, homopolymers and co-polymer Preparation of some polymers; PVC polyethene polystyreno Teflon, Nylon-66, Bakelite and their uses
2. Dyes: definition, natural and synthetic dyes, names and structure of some common drug, drug addiction
3. Fertilizer: definition, chemical and organic fertilizers, nitrogen fertilizer, phosphatic fertilizer; fertilizer as pollution
4. Pesticides: insecticides, herbicides. weedicides and fungcides (examples and their uses)

Inorganic Chemistry
Section C

Unit 18: Heavy Metals **-18 teaching hours**

1 General Characteristics of Transition Metals

18.1. Copper:

1. Position in periodic table
2. Occurrence and extraction of copper form copper pyrites
3. Properties and uses
4. Chemistry of (i) blue vitriol (ii) black oxide of copper (iii) red oxide of copper

18.2 Zinc:

1. Position in periodic table
2. Occurrence and extraction of zinc from zinc blende
3. Properties and uses of copper
4. Preparation properties and uses of zinc white and white vitriol
5. Galvanization

18.3 Mercury:

1. Occurrence and extraction of Hg from Cinnabar
2. Properties of mercur
3. Mercury poisoning and uses of Hg
4. Preparation, properties and uses of (i) Calomel (ii) Corrosive Sublimate

18.4. Iron:

1. Occurrence and extraction
2. Varieties of Iron
3. Properties of Iron
4. Manufacture of Steel by
    a. Bessemer process
    b. Open hearth process
5. Heat treatment of steel
6. Stainless steel
7. Rusting of iron and its- prevention
8. Uses and biological importance of iron
9. Structure and uses of green vitriol, Ferric chloride Mohr's salt

18.5. Silver:

1. Extraction of Silver by cyanide process and its uses
2. Preparation and uses of
    iv. Silver chloride
    v. Silver nitrate

Practical

Full Marks: 25

Pass Marks: 10

Students are required to secure the pass maries in the practical paper separately from the theory paper: The following is the list of experiments. The students are required to perform in the practical classes in Grade XII.

A. Experiments based on recovery and preparation of salt.

1. To recover blue vitriol crystal from the given mixture of copper sulphate and Sodium chloride;
2. To recover $CaC0_3$ from the mixture of $CaCO_3$ and $MgCO_3$ (dolomite); and
3. To obtain hydrated calcium sulphate form the given marble chips.

B. Experiments on volumetric analysis (Titration)

4. To prepare primary standard solution of Na_2C03 and standardize the given acid solution HCI by the standard solution;
5. To determine the strength of approximate NaOH solution with the help of standard decimal solution of HCl supplied
6. To determine the strength of bench sulphuric acid (H_2SO_4) with the help of standard NaOH or Na_2CO_3 solution and express the concentration in (i) normality (ii) molarity (iii) gm/liter (iv) percentage (Double titration)
7. To standardize the given approximate solution with the help of primary standard oxalic solution. (Redox titration) ;
8. To determine the enthalpy of neutralization of a strong acid and strong
9. To complete salt analysis by dry and wet ways. (at least 3 salts)
10. To detect foreign elements present in a given organic compounds. (N, S and X)
11. To identity the functional group present in the organic compounds. (OH, -COOH, -CHO, >CO, $-NH_2$); and
12. To test the presence of
    a. Saturated or unsaturated fats, b. Carbohydrate c. Proteins, d. Phenol.

Note: The experiment no.9 requires 4 practical periods. The experiment no. 10 requires 3 practical periods, the experiment no. 11 requires 3 periods and remaining experiments require 1 period of each. (2 theory periods will be equivalent to 1 practical period.)

Evaluation Scheme

The chemistry theory paper (XII) will consist of three types of questions.

(a) Very short-answer questions (weightage of 2 marks of each)
(b) Short-answer questions (weightage of 5 marks of each);
(c) Long- answer questions (weightage of 10 mark of each.)

According to nature of questions, groups are divided into group 'A', group 'B' and group'

1. Group 'A' will consist of twenty two (22) very short questions, out of which examinees are required to answer only fifteen (15) question
2. Group 'B' will consist of seven (7) short questions, out of which examinees are required to answer five (5) questions.
3. Group 'C' will consist of four (4) questions, out of which examinee are required to answer 2 questions.
4. The weightage of content distribution for the three types of questions from different sections of the curriculum will be as follows:

	Units	Teaching hours	V.S.Q	S.Q	L.Q.
	1	3	1		
	2	8	1		
	3	12	1		
	4	10	1		
	5	8	1		
	6	6	1		
	7	10	1		
	8	3	1		
	9	8	1		
	10	10	1		
	11	4	1		
	12	11	1		
	13	10	1		
	14	4	1		
	15	7	1		
	16	8	2		
	17	10	2		
Inorganic Chemistry	18	18	3	1	0.5
Total	18	150	22	7	4

Prescribe Textbook : To be written.

Reference books

1. Manandhar, Krishna et.al, Conceptual Chemistry-XII, Dibya Deurali Publication Pvt.Ltd., ktm
2. Acharya, Sukdeb et.al, Fundamentals of Chemistry-XII, Bhundipuran Prakashan, ktm

BIOLOGY
Grade: XII

Full Marks: 100 (75T +25P)
Teaching Hours : 150

1. Introduction

Biology for Grade XII builds on the foundation of Biology and seeks to students' knowledge and practical understanding of the life process. It inculcates theoretical understanding, practical work out and analytical thinking. This course is designed to make the students better prepared for further studies in biological sciences.

2. General Objectives.

The general objectives of this course are:

a. to provide the concept of biology and encourage the learners to use the knowledge in day to day life,
b. to make the learners aware of the present development in the biological science with reference to genetics, physiology and human biology, and
c. to prepare the students to take up advanced studies in biology at university level and encourage learners to be familiar with elementary knowledge of biotechnology and to work in the field of health, agriculture and industrial sectors.

3. Specific Objectives

On completion of the course, the students will be able to:

i. describe the plant and animal tissue types and anatomical structure of higher plants as well as their functional processes;
ii. explain the developmental processes of typical plant and animal types;
iii. explain the structure of human body-organs and systems;
iv. discuss the role of hormones controlling various organs;
v. describe common and socially significant human diseases;
vi. explain elementary genetics and its use in some technical fields; and
vii. describe the application of biology in health, agriculture and various industrial sectors.

BIOLOGY

Course Content

Section A (Botany)

Teaching hour: 75

Full marks : 37.5

Unit - 1: Anatomy and Physiology of Organisms

- Plant anatomy: Types of tissues, meristematic and permanent tissues; Internal structure of dicot and monocot root, stem and leaf; Secondary growth of dicot stem.
- Plant physiology:
    a. **Water relation**: Osmosis, diffusion, ascent of sap and transpiration.
    b. **Photosynthesis:** Site of photosynthesis, mechanism and factors affecting photosynthesis.
    c. **Respiration :** Types of respiration, mechanism and factors affecting respiration.
    d. **Growth :** Plant growth hormones: Auxins, Gibberellin, Cytokinin.
    e. Plant movement: Concept of growth and turgor movement.

Unit - 2: Genetics **35 Teaching hours**

Elements of heredity and· variation; Genetic material (DNA and RNA), Genetic code, Gene pool, Genetic expression and its regulation; Basis of Mendelian genetics, Mendel's laws of inheritance, Concept of incomplete dominance and codominance, Multiple gene, Linkages, Crossing over, Mutation and its types and polyploidy, Sex-linked inheritance (X-linked gene for eye color of Drosophila and color-blindness in man)

Unit- 3: .Developmental Biology **10 Teaching hour**

Reproduction and development of angiosperms - Asexual reproduction, Pollination, Development of male and female gametophyte, Fertilization and development of embryo (dicot and monocot).

- Introduction to biotechnology, tissue culture, concept of breeding technique, Disease resistant plants, g·reen manures.
- Genetic engineering and its application
- Fermentation technology: alcoholic and antibiotic fermentation.

------x----------

Unit wise weightage for Botany Grade XII

			Types of Question asked in the examination		
Title	Teaching hours	Marks	Very Short question 1 mark	Short questions 3 marks	Long questions 7.5 or 8 marks
1. Anatomy and physiology	27	13.5	3	1 or 1opt	1 or 1 opt (7.5 marks)

of organisms					
2. Genetics	32	15	1 or 1 opt	2 or 1 opt	1 (8 marks)
3. Development Biology	10	5	2 or 1 opt	1	X
4. Application of Biology	8	4	1 or 1 opt	1	X
	75	37.5	7 ques x 1 marks	5 ques x 3 marks	2 ques- 7.5 marks & 8 marks
			Total 7 marks	Total 15 marks	Totl 15.5 marks

Format of question model for Biology Grade XII

Section A (Botany)

1. Answer in very short; any seven — 1 mark x 7 ques = 7 marks
   Total questions to be asked - 10
2. Describe in brief; any five — 5 mark x 5 ques = 15 marks
   Total questions to be asked - 7
3. Long answer questions (two questions) — 8 marks + 7.5 marks = 15.5 marks
   one question is given as option as "or"

Total 37.5 marks

Note:

1. There will be separate answer sheets for section A (Botany) and section B (Zoology).
2. Total exam time period of theory will be of 3 hrs. for both the sections A and B.
3. Concerned examiners will evaluate both the papers separately.
4. The pass marks is 27. The students must pass in Botany and Zoology jointly.

Time schedule for questions

Very short questions - 1 mark — - maximum 1 min.
Short questions - 3 marks — -maximum 7 - 8 min.
Long questions - 8 or 7. 5 marks — - maximum 23 - 24 min.

Course Content
Section A (Zoology) .

Teaching hour: 75
Full marks : 37.5

Unit- 1: Animal tissues **8 Teaching hour**

Epithelial, connective, muscular and nervous tissues.

Unit- 2: Developmental Biology **6 Teaching hour**

i. Development of frog: Fertilization, cleavage, morulation, blastulation, gastrulation formation of germinal layers, coelom and tissue formation.
ii. Gametogeneisis in animal.

Unit.- 3: Human Biology and Health **50 Teaching hour**

- Nutrition; digestive organs and digestion of food .
- Respiratory organs and mechanism .
- Circulation: Blood, heart and its action, arterial and venous systems (Major arteries and veins). Blood groups, Rh-factor, Blood pressure and lymph (definition).
- Excretion: Excretory organs, mechanism of urine formation, osmoregulation and homeostatic mechanism (temperature regulation kidney and liver control system).
- Nervous co-ordination: Types of nervous system, structure and function of brain, Transmission of nerve impulse.
- Endocrinology: Structures, functions and disorders of pituitary, thyroid, parathyroid, pancreas and adrenal glands.
- Sense organs: Structure and function of eye and ear .
- Reproduction: Reproductive organs .
- Human population: Growth, problem and control strategies.
- Human Diseases:
  (a) Socially significant: Drug abuse, alcoholism and smoking
  (b) Communicable: Typhoid, Tuberculosis, Ascariasis and AIDS.
  (c) Non - communicable: Cancer.
  (d) Concept of kalazar and hepatitis.

Unit - 4: Application of Biology **11 Teaching hrs**

- Antibiotics Vaccines (Type and application)
- Tissue and organs transplantation
- Test-tube baby
- Amniocentesis
- Introduction to poultry farming and fish farming.

-------x----------

Unit wise weightage for Zoology Grade XII

			Types of Question asked in the examination		
Title	Teaching hours	Marks	Very Short question 1 mark	Short questions 3 marks	Long questions 7.5 or 8 marks
1. Anatomy and physiology of organisms	8	4	1	1	x
2. Development Biology	6	3	x or 1 opt	1	x
3. Human body and Health	50	24.5	3 or 2 opt	2 or 1 opt	1 (8 marks or 1 (7.5 marks) or 1 opt
4. Application of Biology	11	6	3	1	X
	75	37.5	7 ques x 1 marks	5 ques x 3 marks	2 ques- 7.5 marks & 8 marks
			Total 7 marks	**Total 15 marks**	**Totl 15 . 5 marks**

Note: Long questions from Developmental Biology can be asked by reducing the marks from the unit of Human Biology and Health

Format of question model for Biology Grade XII
Section B (Zoology)

1. Answer in very short; any seven 1mark x 7 ques = 7 marks
   Total questions to be asked - 10
2. Describe in brief; any five 5mark x 5 ques = 15 marks
   Total questions to be asked - 7
3. Long answer questions (two questions) 8 marks + 7.5 marks = 15.5 marks
   one question is given as option as "or"

Total 37.5 marks

Note:

1. There will be separate answer sheets for section A (Botany) and section B (Zoology).
2. Total exam time period of theory will be of 3 hrs. for both the sections A and B.
3. Concerned examiners will evaluate both the papers separately.
4. The pass marks is 27. The students must pass in Botany and Zoology jointly.

Time schedule for questions

Very short questions - 1 mark - maximum 1 min.
Short questions - 3 marks -maximum 7 - 8 min.
Long questions - 8 or 7. 5 marks - maximum 23 - 24 min.

Zoology Practical Grade XII

1. Experiments of biochemistry

a. Experiment to demonstrate the action of saliva on starch.
b. Experiment to detect the presence of starch in a given solution.
c. Experiment to detect the presence of sugar in urine.
d. Experiment to detect the presence of protein in a given solution (hen's albumen).
e. Study the effect of temperature, ethyl alcohol, and pH on enzymatic action of saliva.
f. Measurement of human blood-pressure with sphygmomanometer.

2. *Study the permanent slides of different types of animal tissues:*
Squamous, columnar, cuboidal, areolar, adipose, hyaline and bone.

3. *Study the permanent slides of following histological organs of mammal:*
Skin, stomach, intestine, liver, pancreas, kidney, lung, testis and ovary.

4. Study of embryological permanent slides of frog: Cleavage, blastula and gastrula.

5. Study the bones of rabbit (articulate and disarticulate) or models of humanbones.

6. Dissection of a mammal so as to expose its:

i. General anatomy;
ii. Alimentary canal;
iii. Arterial and venous systems;
iv. Brain;
v. Reproductive organs.

Botany Practical Grade XII

1. Experiments on plant physiology

a. Experiment to demonstrate the process of osmosis.
b. Experiment to demonstrate the process of ascent of sap.
c. Experiment to demonstrate the unequal transpiration from two surfaces of dorsiventral leaf .
d. Experiment to demonstrate the rate of transpiration by Ganong's potometer .
e. Experiment to demonstrate that the chlorophyll is essential for photosynthesis.
f. Experiment to demonstrate that the carbon dioxide is essential for photosynthesis.
g. Experiment to demonstrate the process of evolution of Oxygen during photosynthesis.
h. Experiment to demonstrate the aerobic and anaerobic respiration.
i. Study on effect of growth hormones on germination and shoot elongation,
j. Demonstration of plant tissue culture.
k. Demonstration of yeast culture.
l. Preparation of DNA model.

2. Demonstration of Mendalian genetics using maize cob:

i. To demonstrate segregation of characters in a monohybrid cross.
ii. To demonstrate independent assortment of characters in a dihybrid cross.

3. Study the permanent slides of different types of simple, permanent and complex plant tissues.
4. Demonstration of vegetative propagation.
5. Study the permanent-slides of:
    i. T.S of anther .
    ii. L.S of ovule of dicot plant
    iii. Structure of embryo.
5. Preparation of temporary slide of following plant materials:
    (i) T .S of dicot root, stem and leaf
    (iii) T.S. of monocot root, stem and leaf.

Reference Books

1. Mehta, Kripa Ram, Principles of Biology-XII, Asmita Books Publication, Ktm.

Mathematics
Grade: XII

Full Marks: 100
Teaching hours: 150

I. Introduction:

This course is a continuation to the course of Grade XI. It further consolidates the concept learnt in Grade XI. For the completeness of the course it includes other areas in mathematics such as Mechanics, Group theory, Statistics and probability, Numerical methods.
Group (A) contains eleven units, and is compulsory while Group (B) and Group (C) each containing four units are optional. Students will be required to offer either Group (B) or Group (C).

II. Specific Objectives:

On completion of this course students will able to:

1. state basic principles of counting and find number of permutations and combinations of set of objects with various conditions;
2. prove binomial theorem for positive index, state exponential and logarithmic series, and apply them in solving problems;
3. understand group as algebraic structure and establish simple results on finite and infinite groups;
4. derive equations of parabola, ellipse and hyperbola, and find tangent & normal to the parabola;
5. locate points in space and derive the equation of plane;
6. define product of vectors and give their geometrical meaning and use it to find various results of geometry and trigonometry;
7. establish the relation between continuity and differentiability of a function, compute, derivatives of exponential, logarithmic and hyperbolic and inverse circular functions, apply Hospital's rule;
8. determine standard integrals, use partial fractions of integrate rational function;
9. define differential equations and different forms of solutions and use them in application;
10. state measures of dispersion and find coefficient of correlation and equation of regression;
11. define probability, establish basic laws of probability;
12. define parallelogram of forces, composition and resolution of forces, triangle of forces, and prove Lami's theorem;
13. find resultant of like and unlike parallel forces, moment of a force and moment of couple of forces;
14. state and use Newton's laws of motion. Find Impulse, work, Energy & Power and acquaint with a projectile;

15. formulate linear programming problem, solve LPP graphically and by simplex method;
16. determine a root of equations by numerical methods; and
17. evaluate integrals by trapezoid and Simpson's rules.

IIII. Course Contents:

Group 'A'

Unit 1: Permutation and Combination. 10 hrs

Basic principle of counting, Permutation of (a) set of objects all different (b) set of objects not all different (c) circular arrangement (d) repeated use of the same object. Combination of things all different, Properties of combination.

Unit 2: Binomial Theorem 10 hrs

Binomial theorem for a positive integral index, general term. Binomial coefficients, Binomial theorem for any index (Without proof), Application to approximation, Euler's number. Expansion of e^x, a^x and log (1 + x) (without proof)

Unit 3: Elementary Group Theory 8 hrs

Binary operation, Binary operation on sets of integers and their properties, Definition of a Group, Groups whose element are not numbers, Finite and infinite groups, Uniqueness of identity, Uniqueness of inverse, Cancellation law, Abelian Group.

Unit 4: Conic Sections 12 hrs

Standard equation of parabola, Ellipse and Hyperbola, Equations of tangent and normal to a parabola at a given point.

Unit 5:Co-ordinates in Space 12 hrs

Co-ordinate axes, Co-ordinate planes, The octants, Distance between two points, External and internal point of division, Direction cosines and ratios , fundamental relation between direction cosines, Projections, Angle between two lines.

General equation of a plane, Equation of a plane in intercept and normal form, plane through three given points, Plane through the intersection of two given planes, Parallel and perpendicular planes, angle between two planes distance of a point from a plane.

Unit 6 : Vectors and its Applications 14 hrs

Cartesian representation of vectors, Collinear and non-collinear vectors, Coplanar and non-Coplanar vectors, Linear combination of vectors.

Scalar product of two vectors, Angle between two vectors, Geometric interpretation of scalar product, Properties of Scalar Product, Condition of perpendicularity. Vector product of two vectors, Geometric interpretation of vector product, properties of Vector Product, Application of product of vectors in plane trigonometry.

Unit 7: Derivative and its Application **14 hrs**

Derivative of inverse trigonometric, exponential and logarithmic functions by definition, Relationship between continuity and differentiability, Rules for differentiating hyperbolic function and inverse hyperbolic function, Composite function and function of the type.
L'Hospital's rule (for 0/0, */),* Differentials, Tangent and Normal, Geometric interpretation and application of Rolle's theorem and Mean value theorem.

Unit 8 : Antiderivatives 7 **hrs**

Antiderivatives, Standard integrals, Integrals reducible to standard forms, Integrals of rational functions.

Unit 9 : Differential Equations and their Applications **7 hrs**

Differential equation and its order and degree, Differential equations of first order and first degree: Differential equations with separable variables, homogeneous and exact differential equations.

Unit 10 : Dispersion, Correlation and Regression **12 hrs**

Dispersion, Measures of dispersion (Range, Semi interpqrtile range, Mean deviation, Standard deviation) variance, Coefficient of variation, Skewness, Karl Pearson's and Bowley's Coefficient of Skewness, Bivariate distribution, Con-elation, Nature of correlation, Correlation coefficient by Karl Pearson's method. Interpretation of correlation coefficient, Properties of correlation coefficient (Without proof).Regression equation, Regression line of y on *x* and x on *y*.

Unit 11 : Probability **8 hrs**

Random experiment, sample space, Event, Equally likely cases, Mutually exclusive events, Exhaustive cases, Favorable cases, Independent and dependent cases,Mathematical and empirical definition of probability, Two basic laws of probability, Conditional probability (without proof), Binomial distribution, Mean and Standard deviation of binomial distribution (without proof).

Group 'B'

Unit 12: Statics **9 hrs**

Forces and resultant forces, Parallelogram of forces, Composition and resolution of forces, Resultant of coplanar forces acting at a point, Triangle of forces and Lami's theorem.

Unit 13: Statics (Continued) **9 hrs**

Resultant of like and unlike parallel forces, Moment of a force, Varignon's theorem, Couple and its properties (without proof).

Unit 14 : Dynamics **9hrs**

Motion of particle in a straight line, Motion with uniform acceleration, Motion under gravity, Motion down a smooth inclined plane. The concepts and theorems ;be restated and formulated as application of calculus.

Unit 15 : Dynamics (Continued) **9 hrs**

Newton's laws of motion, Impulse, Work, Energy and Power, projectiles.

Group 'C'

Unit 16 : Linear Programming **11 hrs**

Introduction of a linear programming problem (LPP), Graphical solution of LPP in two variables, Solution of LPP by simplex method (two variables).

Unit 17: Computational Method **9 hrs**

Introduction to Numerical computing (Characteristics of Numerical computing Accuracy, Rate of Convergence, Numerical Stability, Efficiency); Number systems (Decimal, Binary, Octal & Hexadecimal system conversion of one system in another), Approximations and error in computing Roots of nonlinear equations Algebraic, polynomial & transcendental equations and their solution by bisection and Newton- Raphson Methods,

Unit 18: Computational Method (Continued) **8 hrs**

Solution of system of linear equations by Gauss elimination method, Gauss-seidel method, Ill conditioned systems, Matrix inversion method.

Unit 19: Numerical integration **8 hrs**

Trapezoidal and Simpson's rules, estimation of errors.

IV. Evaluation Scheme:

No. of questions	Marks	Total	Remarks
15	2	30	covering all units.
10	4	30	with four OR-question from the same.
5	6	30	with two OR-question from the same.

The questions of 6 marks will be asked from the units with 12 or more credit

V. Reference books:

1. Awasthi, Ramesh et.al., Higher Secondary Level Mathematics-XTT, Union education Ktm
2. Mishra, Shailendra Kumar, Conceptual Mathematics-XU, Divya Deurali Publication Pvt. Ltd. Ktm

***PRINCIPLES OF ACCOUNTING**
Grade: XII

Full Marks: 1oo
Teaching Hrs: 150

I. INTRODUCTION

Accounting is a process designed to identify, measure, and communicate financial information about an organization or other entity It is both an art and a science of keeping record of financial transactions, presenting and analyzing financial information of government and non-governmental enterprises. It is an essential component of commerce education.

II. GENERAL. OBJECTIVES

General objectives of this course are to:

a. introduce to the students the concepts of accounting for companies, cost accounting, and auditing, and to develop the students' ability to prepare and analyze financial statements; and
b. provide them with fundamental knowledge of book-keeping and accounting required while pursuing higher education in commerce and management fields.

III. SPECIFIC OBJECTIVES

On completion of the course, the student will be able to:

a. develop strong foundation of knowledge and understanding required for advanced level education in management;
b. be familiar with formation of companies, raising of capital by issuing shares and debentures, and preparation of final accounts for companies;
c. use worksheet for preparing the financial statements in the format prescribed by the Company Act 2053 BS;
d. utilize and analyze accounting data for meaningful interpretation; and
e. understand the basic knowledge of cost accounting.

IV. COURSE SCHEME·

Units	Chapters	Teaching Hours
1	Accounting for Companies	35
2	Final Accounts of a Company	30
3	Financial Statement Analysis	35
4	Cost Accounting	50
	Total	150

V. COURSE CONTENT

UNIT 1 : ACCOUNTING FOR COMPANIES LH 35

Company formation, types, and documents:

Company and its formation: Meaning and concept of company, characteristics of a company; Types of companies: Statutory Company, Registered Company Companies limited by shares and guarantee, Unlimited Company; private Company; Public Company; Characteristic and privileges of Private company advantages of company form of organization; company promoters; Concept of Memorandum of Association, Article of Association and Prospectus relating to shares and debentures.

Shares and Share Capital of a Company:

Meaning of share capital. Types of share capital: Authorized, Issued, Subscribed Called up and Paid up Capital. Methods of Raising Capital: Meaning and types of shares ordinary and Preference shares; Types of preference shares - cumulative, non-cumulative, participating and redeemable.

Accounting treatment for:
Share application, share allotment, share calls; issue of shares: at par, at discount and at premium; calls in arrears; calls in advance; forfeiture, re-issue of forfeited shares. Minimum subscription, under subscription over subscription and share allotment; Refund and transfer of excess application money to allotment and share calls and pro-rata allotment. Share underwriting commission and brokerage, Issue of shares in consideration for other than cash

Accounting for Debentures:
Meaning, characteristics, importance and types of debentures: Bearer and Registered, Naked and secured, Redeemable and Irredeemable, Convertible and non-convertible, First and second debentures,

Accounting treatment for: debenture application, allotment and calls; Issue of debentures for cash, consideration for other than cash and as collateral security Issue of debenture: at par, at a premium and at a discount, Issue of debentures with redeemable conditions; Redemption of debentures in lump sum cash and conversion into shares and debentures.
Treatment of shares and debentures in the Balance Sheet of a Company

UNIT 2 : FINAL ACCOUNTS OF A COMPANY LH 30

Trading Account: Concept and preparation of Trading Account Profit and Loss Account:. Concept and preparation of Profit and Loss Account

Profit and Loss Appropriation Account: Concept and preparation of Profit & Loss Appropriation Account

Balance Sheet: Concept, objectives and marshalling of assets and liabilities, and preparation of a Balance Sheet.

Preparation of a company's final account with or without the following adjustments: outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation and amortization, appreciation, closing stock, bad debts, loss of goods, provision for bad debts, provision for discount on debtors, interest on loans, interest on investments, purchase or sale of fixed assets, Goods distributed as samples, transfer to reserves and funds, tax paid and provision for tax; proposed dividend and final dividend, manager's commission, bonus and retirement benefits to employees in cash, and goods sent to customers on sale or return basis.
Concept and preparation of Income Statement and Balance Sheet as prescribed by the Company Act 2053 BS using a work sheet.

UNIT 3: FINANCIAL STATEMENT ANALYSIS LH 35

Meaning. concept, objectives, and limitation of financial statement analysis; parties interested in financial statement analysis.

Ratio Analysis:

Concept and limitations of ratio analysis. Calculation of following ratios (without interpretation): Current ratio, Quick ratio, Debt-equity ratio, Debt to total capital ratio, Inventory turnover ratio, Debtor turnover ratio, average collection period, Fixed assets turnover ratio, Total assets turnover ratio, Gross profit margin, Net profit margin, Return on assets, Return on shareholder's equity, Return on common shareholder's equity; Return on capital employed, Earning per share, and Dividend per share.

Statement of Changes in Financial Position:

Meaning, objectives, and preparation of statement of changes in financial position on working capital and cash basis - determination of funds from operations, cash from operations, cash from investing and financing activities with simple and direct adjustments.

UNIT 4 : COST ACCOUNTING **LH 50**

Conceptual Foundation: Concept, objectives, importance and limitations of cost accounting, limitations of financial accounting, difference between financial and cost accounting; Methods of costing: Job order costing, Process costing, Service costing, Unit costing, Batch costing, and Multiple costing.

Introduction and classification of costs: Concept of cost, classification of cost on the basis of production and process, element, functions, variability and controllability.

Materials and material control: Meaning and types of materials; Material control: objectives and essential of material control

Material Scheduling or Routing:
Purchases: Material purchasing and purchase department; centralized and decentralized purchasing; purchase order; preparation of Purchase Requisition form, Tender form, Purchase Order form, and Inspection and Receiving form.

Store keeping: Meaning, types and location of stores, storekeeper: duties and responsibilities of storekeeper; classification and codification of materials. Bin cards.

Issuing: Meaning and preparation of inventory requisition form, pricing of materials issued, and valuation of closing stock under LIFO and FIFO by preparing store ledgers.

Stock Level: Meaning and computation of stock levels: minimum stock level, maximum stock level, average stock level, reordering level, and reordering quantity.

Economic Order Quantity (EOQ): Meaning, concept, and computation of EOQ and total cost at EOQ using formula.

Accounting for labour:
Labour cost: Meaning and importance, Labour cost control and its need.
Departments and their functions: personnel department, engineering department, Rate or time and motion study department, Time keeping department, payroll department, and cost accounting department. Basic knowledge about the following forms: labour Requisition form; Employee's History Card, Time Card, Piece Card, and Payroll Sheet.

System of wages payment: Piece Rate and Time Rate Systems: Meaning, advantages and disadvantages of and difference between piece rate and time rate systems. Determination of Total wages using Piece Rate and Time Rate systems.

Accounting for Overheads:
Overheads: Concept and meaning of overheads; Classification of overhead on the basis of function, behaviour, elements, and control; Allocation, Apportionment and Absorption of overheads: Meaning and importance.

Unit or Output costing:
Unit costing: Concept and importance of unit costing; **Components of cost sheet**: Prime cost, work Oncost, Works Cost, Office Oncost, Cost of production, cost of goods sold, Selling and Distribution Oncost, Cost of sales, Profit, and Total sales; preparation of cost sheet; **Tender**: Meaning and calculation of tender cost on the basis of cost sheet; **Manufacturing account**: Meaning and preparation of Manufacturing Account for determination of cost of manufacturing and manufacturing profit.

Cost Reconciliation Statement: Concept and preparation of Cost Reconciliation Statement.

VI. UNIT-WISE WEIGHT AGE:

Units	Chapters	Number of Questions			Marks Allocated		
		Th.	Pr.	Tot	Th.	Pr.	Tot
1	Accounting for Companies	2	4	7	5	16	21
2	Final accounts of a company	-	2	2	-	20	20
3	Financial Statement Analysis	2	3	5	5	20	25
4	Cost Accounting	4	5	8	10	24	34
	Total	**8**	**14**	**22**	**20**	**80**	**100**

References :

1. Rai, Ishwor Man et.al Principles of Accounting-XII, Nalanda; Prakashan, Pvt.Ltd.Ktm
2. Koirala, Madhav et.al., Principles of Accounting-XII, Buddha Prakashan Ktm
3. Shrestha, Dasharatha et.al., Accountancy-XII, M.K. Prakashan Ktm.
4. Pandey, Mr. Dhrubalal and et.al., Principles, of Accountancy-XII, Asia Publication Pvt. Ltd.
5. Bajracharya, Puskar, Principle of Accounting-XII, Asia Publication Pvt. Ltd. Ktm
6. Sharma, Narendra et.al., Principles of Accounting-XII, Bhundipuran Prakashan, Ktm

Business Studies
Grade:XII

Full Marks:100
Teaching Hrs: 150

I. Introduction:

This course is an extension of Business Studies of Grade XI. The course emphasizes on the adequate orientation of the study of management. The main thrust of this course is to strengthen the fundamental knowledge acquired by the students at Grade XI and provides in-depth understanding of management functions related to business. In addition, the course also aims to equip the students with suitable tools and techniques of management to carry out management functions successfully that ensure the sustainability and growth of business. Besides, the course also imparts required knowledge on general insurance business along with major emerging management concepts. This is a theoretical course which consists of fourteen units.

II. General Objectives:

The general objectives of the course are to:

1. provide fundamental knowledge on principles, practices and operations of business management;
2. familiarize the students with the knowledge related to different functional aspects of business management; and
3. equip the students with skills and knowledge that can be effectively applied in business management.

III. Specific Objectives:

The specific objectives of the course are to:

a) acquaint the students with a blend of fundamental concepts and development of management;
b) familiarize the students with knowledge of major management functions, and their importance;
c) provide an insight to the students on recognized tools, techniques and practices of management functions; and
d) develop skills for the application of acquired knowledge at various situations.

IV. Course Contents:

Unit 1:Nature of Management **LH 12**

- Concept and meaning of management
- Characteristics of management
- Management as science, art and profession
- Management and administration
- Functions of management
- Levels of management

Unit 2: Principles of Management **LH 10**

- Concept of scientific management
- Taylor's scientific management: principles and limitations
- Fayol's administrative management theory
- Max Weber's bureaucracy theory: concept and principles

Unit 3:Planning **LH 8**

- Concept of planning
- Types of planning
- Planning process
- Need for planning
- Benefits of planning
- Limitations in planning

Unit 4:Organizing **LH 30**

- Concept of organizing
- Principles of organizing
- Importance of organizing as a management, function
- Organizing process
- Organizational structures: Line, line and staff, functional
- Departmentation: meaning and methods
- Concept of authority, responsibility and accountability
- Principles of delegation of authority
- Barriers to effective delegation of authority .
- Decentralization: meaning and need
- Difference between delegation and decentralization of authority
- Factors affecting decentralization of authority

Unit 5:Decision-Making **LH 10**

- Concept of decision-making
- Importance of decision-making
- Steps in decision making process
- Types of managerial decisions .

Unit 6: Direction **LH 5**

- Concept of direction
- Principles of direction
- Components of direction
- Importance of direction

Unit 7: Motivation **LH 7**

- Concept of motivation
- Process of motivation
- Importance of motivation
- Techniques of motivation
- Positive and negative motivation
- Maslow's Need Hierarchy theory

Unit 8:Leadership **LH 7**

- Concept of leadership
- Leadership qualities
- Functions of managerial leader
- Leadership styles: autocratic, democratic and leissez faire

Unit 9: Supervision **LH 5**

- Concept of supervision
- Supervisor: role and functions
- Factors affecting supervision

Unit 10: Communication **LH 10**

- Concept of communication
- Process of communication
- Importance of communication
- Principles of communication
- Types of communication: horizontal, vertical and diagonal
- Barriers to effective communication

Unit 11 Co-ordination **LH 5**

- Concept of co-ordination
- Techniques of effective co-ordination
- Importance of co-ordination
- Principles of co-ordination

Unit 12: Controlling **LH 6**

- Concept of control
- Importance of control
- Controlling process
- Essentials of effective control

Unit 13: Risk Management and Insurance **LH 30**

- Concept of risk management

- Concept of insurance
- Importance of insurance
- Essentials of insurance contract
- Principles of insurance
- Types of insurance
- Life Insurance meaning, types or policies (Whole life, Endowment and Term), and procedures of effecting life policies.
- Fire Insurance: meaning, types of policies and procedures of effecting fire policies
- Marine Insurance: meaning, subject matters and types or policies

Unit 14: Emerging Management Concepts **LH 5**

- Conflict management
- Knowledge management
- Participative management

I. Introduction:

Students' performance will be evaluated on the basis of following structure of questions to be administered in the examination.

Nature of Question (Group)	Total Question to be asked	Required No. of questions to be Attempted	Weightage	Total marks
A. Short Answer	10 (ten)	8 (eight)	8 for each	64
B. Long Answer	3 (three)	2 (two)	18 for each	36
Total Marks				**100**

VI. Teaching Strategies

In order to achieve the set objectives of the course, effective teaching strategies will be implemented. Such strategies include:

(i) lecture;
(ii) group discussions;
(iii) class assignment and participation; and
(iv) field visit and report Writing, if possible;

The application of the strategy may include one or a combination of more than one strategy.

VII. Reference books:

1. Pokharel, Dhurb Raj et.al., Business Studies-XII, Asmita Book Publication, Ktm,
2. Poudyal, Santosh Raj et.al., Business Studies-XII, Asmita Books Publication, Ktm.
3. Pandey, Dhruba Lal, Business Studies-XII, Sunrise Prakasan Pvt. Ltd., Ktm
4. Ghimire, Bishnu Prasad et.al., Business Studies-XII, Welcome Prakashan Pvt. Ltd., Ktm

5. Bhandari, Kedar Prasad, Business Studies-XII, Bhundipuran Prakashan, Ktm
6. Khadka, Sherjung, Business Studies-XII, Asia Publication Pvt. Ltd.
7. Sharma, Bhakti Prasad, Business Studies-XII, Ekata Books and Distributors, Ktm

***HOTEL MANAGEMENT**
Grade: XII

Fu/lmarks: 100 (75T+25P)
Teaching hours: 150

I. Introduction

The Hotel Management course has been specially designed to familiarise the students with the hospitality industry with specific reference to hotels. The course will enable the students to pursue Hotel line as a career. School offering this course must have minimum facilities for practical demonstration related to kitchen, housekeeping, front office and food and beverage service.

II. General Objective

The general objectives of this course are:

a) to impart basic knowledge and skills required for hotel and catering industry;
b) to enable the students to operate and work on sm'all-scale accommodation and catering establishments; and
c) to serve as a foundation course to pursue study of BHM, BTTM, BBS, etc

III. Specific Objectives

On completion of this course the students will be able to:

a) operate small-scale accommodation and catering operations
b) perform entry level jobs in the core areas of small scale accommodation and catering establishment; and
c) realize the importance of hospitality.

IV. Course Scheme

Breakdown of Theory and Demonstration Class Hours

Units	Chapters	Theory	Demonstration/ Practical Class	Teaching Hours
1	Front Office	20	10	30
2	Housekeeping Department	20	10	30
3	Food and beverage Service	30	10	40
4	Kitchen	25	25	50
	Total	95	55	150

V. Course Contains **Lesson Hours**

Chapter 1. Front Office **25**

1.1 Introduction to Reservation

– Concept of Reservation

- Purpose Reservation
- Process of reservation
- Sources and Modes of Reservation,
- Factors affecting reservation
- Confirmation, no-show, walk-ins, overbooking and cancellation

1.2. Hotel Tariff
- Concept of tariff
- Types of hotel tariff
- Basis of charging room rate

1.3. Modes of payment
- Cash, travelers cheque, credit cards, and voucher

1.4. Visitor Ledger and Billing
- Meaning and purpose.
- Posting procedure.
- Preparing guest bill

1.5. Front Office Correspondence
- Setting letters -different parts
- Writing different situational letters .

(Inquires, confirmation, regret and alternative offer, apologizes)

1.6. Telephone Handling Etiquette

1.7. Hotel Safety and Security
- Safety and First aid measure
- Security through information/ key handling
- Unusual movements/suspicious people

Chapter 2: Housekeeping Department **30**

2.1. Cleaning
- Need and importance of cleaning
- Equipment used in cleaning

2.2. Furniture
- Cleaning Equipment and materials
- Cleaning process

2.3. Metal cleaning
- Identification
- Cleaning equipment and materials
- Cleaning process

2.4. Glass/ Window cleaning
- Equipment and materials
- Cleaning process

2.5. Floor

- Types

3.9. Breakfast

- Definition and types

Chapter 4: Food and Beverage Service **45**

4.1 Restaurant Furniture

4.2 Restaurant Linen

4.3Menu

- Definition
- Objectives
- Types
- Courses in Menu

4.4 Service sequence/etiquette

- Types of service

4.5 Mise en Scene/ Mise en Place/Briefing

4. 6 Beverage

- Classification
- Hot and cold beverage (Non-alcoholic)
- Alcoholic beverage - beer, wines, spirits, liqueurs and mixed drinks

4.7. Tobacco

- Types and service

4.8 Food and Beverage Control

- Needs and objective
- Requisition, receiving, issuing, storing and record keeping
- Basic control procedures
- Portion control
- KOT/BOT
- Billing

4.9. Holding and Handling service ware and equipments

4.10. Table layout (A la carte, Table d 'hote)

EVALUATION SCHEME

	To asked	To be answered	Marks
Comprehensive Answer Question	4	3	10 x 3=30
Short answer question	8	6	6x5=30
Objective Questions	15	15	15
	Comprehensive Answer Question	Shortanswer question	Objective Questions
Front Office and House Keeping	2	2+2=4	3+2=5
Food and beverage Service and Kitchen	2+2=4	2+2=4	5+5=10

Reference books:

1. Oil, Gopal Singh et.al., Hotel Management Principles and practices-XII, Buddha Prakashan, Ktm
2. Joshi, Basant Prasad et.al., Fundamentals of Hotel Management-XII, Sukunda Pustak Bhawan, Ktm
3. Joshi, Basant Prasad et.al., Fundamentals of Hotel Management-XII, Sukunda Pustak Bhawan, Ktm
4. Bhandari, Saroj Sing et.al., Principles of Hotel Management-XII, Asmita Books Publication, Ktm

Travel and Tourism
Grade: XII

Full Marks: 100(75T+25P)
Teaching Hours : 150

I. Introduction

The purpose of this course is to introduce and impart students with the entry level skills require in the tourist industry such as airlines ticketing, tour, trek and rafting operations. This is also a theoretical-cum- practical course which consists of fourteen units.

II. General Objectives

The general objectives of this course arc to:

a. motivate and prepare students to attain next (bachelor's) level of tourism management course;
b. introduce students with the operational aspects of tourism industry in general and travel; trekking and rafting agencies in particular; and
c. impart the students with entry level skill requirement of the travel, trekking and rafting agencies.

III. Specific Objectives

The students at the end of this course will be able to:

a. refer schedules, tariff and other major travel/tourism related documents;
b. receive and respond to the tourists need;
c. suggest and prepare simple travel, tour, trek and railing itinerary
d. prepare quotation of the simple itinerary prepared by them; and
e. read, write and act on passenger ticket.

IV. Course Contents

Tour Trek and Raft (Part 1)

Unit 1: Tourism Marketing

- Basic concepts of general marketing
- Concepts of tourism marketing
- Specific features of tourism marketing - tourism Marketing Mix

Unit 2: Tourism Product

- Meaning of product, Product concepts
- Itinerary Designing
  - Basic elements
  - Importance
  - Consideration
  - Simple tour itinerary designing

- Simple trekking itinerary designing
- Simple rafting itinerary designing

Unit 3: Tourism Product Pricing

- Meaning of pricing
- Concept of pricing (tariff) in tourism
- Referring tariffs
  - Hotel tariff - Trekking and Rafting tariff
  - Transport tariff -Refund

Unit 4: Tourism Channels of Distribution

- Meaning and aspects of distribution
- Concepts of channels of distribution in tourism
- Tourism distribution channel members

Unit 5: Tourism Promotion

- Meaning of promotion - Concept of promotion in tourism
- Advertising - Public relation
- Sales support

Unit 6: Salesmanship

- Desirable traits of salesman - Meaning and importance of sale
- Customer relation technique - Communication skill
- Understanding visitor's profile

Unit 7: Tourism Sales Process

- Reservation
  - Meaning, need, importance
  - Reservation process
  - Hotel Reservation
  - Transport reservation
  - Service order (charge/voucher)

Unit 8: Receptions and Transfers

- Arrival transfer- Importance and process
- Departure transfer - importance and process
- Reception and Briefing
- Do's and don'ts

Travel (Airlines) (Part II)

Unit 9: Travel Information

- Source of travel information
- TIM (Travel Information Manual)
  - Role and importance
  - Visa
  - Custom
  - Currency
  - -Passport
  - - Health Regulation
  - - Airport tax

Unit 10: OAG (World Airways) Flight Guide Book

- Meaning and its role in providing travel information
- Introduction to international coding and decoding system
- Baggage allowance
- International time calculation.
- How to refer published time table (schedules published by airlines)

Unit 11: Basics of Airfare

- General rules of airfare (basics or airfare)
- Deportees, inadmissible passengers, refusal to transfer
- Refund, No show
- Types of airfare

Unit 12: Passenger Air Ticket

- Meaning and importance
- IATA Ticketing
  - General rules regarding IATA ticketing
  - Composition of IATA ticketing
- Read write and act on passenger ticket

Unit 13: Dealing with Travel Related Documents

- PTA (Prepaid Ticket Advice)
- BSP (Bank Settlement Plan)
- MCO (Miscellaneous Charge Order)
- Credit Cards, Traveler's cheque

Unit 14: Computer Application in Tourism

- Computer application
- Computer Reservation System (CRS)

V. Breakdown of Classes Hours

S.N	Subject	Theory/class room	Demonstration practical	Total Hours
1.	Tourism Marketing	6		6
2.	Tourism Product	8	10	18
3.	Tourism Product Pricing	7	10	17
4.	Tourism Channel of Distribution	8		8
5.	Tourism Promotion	15		15
6.	Salesmanship	7	4	11
7.	Tourism Sales Process	5	5	10
8.	Reception and Transfers	15		15
	Total	71	29	100
Unit B				
9.	Travel Information	10	5	15
10.	OAG (World Airways) Flight Guide Book	5	5	10
11.	Basics of Airfare	10		10
12.	Air Ticket	4	6	10
13.	Travel Documents	5		5
	Computer Reservation	1	4	5
	Total	**30**	**20**	**50**
	Total	**100**	**50**	**50**

VI. Evaluation Guide/Marks Allocation

25 percent marks is allocated for practical activity as mentioned in section VII and VIII.

	To be asked	To be answered	Marks
Comprehensive Answer Questions	3	2	10x2=20
Short answer questions	9	7	7x5=35
Very Short Answer Questions	10	10	10x2=20
Practical-Study tour, report preparation and presentation			25
Total	22	19	100 marks

VII. Practical Activity

Students are involved in practical exercises as follows:

Classroom Practice

Students are required to prepare/ maintain files containing two parts

Part 1: Participate in Tour and/or, trek and /or rafting program etc and prepare itinerary, make bookings/reservation, refer/find out tariff and compute prices as per the itinerary

Part II: Travel/Airlines

1. Prepare flight detail of a passenger
2. Issue flight reservation as per the flight detail.
3. Collect related flight schedules and fare.

4. Issue air ticket as per the bookings and flight details.

VIII. Annual Practical Examination

Annual examination should be held under the supervision of the official deputed from HSEB. The official from HSEB has to verify the internal assessment marks with the student's performance and record maintained by the institution. Out of 25 marks assigned for practical 15 marks have been set aside for classroom performance and practical works to be evaluated by the concerned teacher. 10 marks have been set aside for the Annual Practical Examination to be held under the supervision of the official deputed from HSEB (External examiner).

Evaluation system should follow the followings. The official deputed from HSEB has to verify/ endorse the evaluation form and other supporting documents maintained by the teacher/institution. The official will fill in the Annual Evaluation Format being prescribed by HSEB, along with the Internal Evaluation Form and submit to Higher Secondary Education Board, Office of The Controller of Examination. For the evaluation purpose the external examiner deputed from; HSEB will organize oral/written and practical examinations within the framework prescribed by course and Teaching Manual.

Teachers/ institutions are requested to consider following points while evaluating student's performance.

1. **Attendance:** Teachers are advised to evaluate the regularity of students. It is expected to be minimum 75%.
2. **Classroom performance/ Practical performance:** Teachers are advised to give home assignments and involve students in practical. The grading should be done on the basis of their participation and performance. Teachers should evaluate on their understanding of the subject matter. Short answer questions should be asked in the classroom to find out their level of understanding. Classroom/practical performance should also include homework and reports maintained in file. Each student needs to maintain a homework copy. The teachers are required to check/evaluate the file and home work on a regular basis.
3. **Tour and Travel File:** Each student is required to prepare a file as per the Teaching Manual.
4. **Grooming:** Students should be well groomed.
5. Marks obtained in different term/unit examinations should be tilled up in the form as mentioned in the Teaching Manuals.

IX. Reference Books:

1. Ghimire, Ananda (2007), ***Travel and Tourism Practical Approach,*** Kathmandu: Ekta Books Distributors.
2. Ghimire, Ananda (2009), ***A Text book on Tourism- XI,*** Kathmandu: Ekta Books distributors.

3. Bhatia, A. K. (1995), ***Tourism Development Principles and Practices,*** Sterling Publishers Pvt. Ltd.
4. Bista, Dor Bahadur, ***People of Nepal.***
5. Thapa, Netra B. (1996), ***A Short History of Nepal.***
6. Nepal Tourism Board- ***Various Publications***.
7. Collin, P.I-1., ***Dictionary of Hotels, Tourism and Catering management.***
8. Knowles, Peter, ***White Water Nepal***.
9. Kunwar, Ramesh Raj, ***Tourism and Development Science and Industry Interface.***
10. Bezruchka, Stephen, ***A Guide Trekking In Nepal.***
11. Puri, Uddav (2065), ***Travel and Tourism Management,*** Kathmandu: Taleju Publication.
12. Puri, Uddav (2065), ***Tourism Management,*** Kathmandu: Taleju Publication.
13. Puri, Uddav (2065), ***Tourism Development,*** Kathmandu: Taleju Publication.
14. Satyal, Y.R, ***Essentials of Tourism***.
15. His Majesty's Government, ***Nepal Tourism Statistics.***
16. Nepal in Maps.
17. Promotional materials developed by tourism enterprises.
18. Publications of Associations and organizations (WTO, PATA, IATA, HAN, TAAN, etc).
19. Travel magazines and journals.
20. Government rules and regulations regarding tourism.

HISTORY
Grade: XII

Full Marks:100
Teaching hours : 150

Introduction to World History

I.Introduction

This course is designed to introduce to the students the flow of events that shaped human history and civilization through the ages up to the first half of the twentieth century. It commences with the dawn of civilization in the Indian subcontinent and European Scholastic Culture of the Middle Ages and steps into the world of revolutions whose impacts are seen in national awakening, leading to ultra nationalism that was primarily responsible for the two world wars and its consequences.

General Objectives

The general objective of this study is to familiarise the students with the evolution of human culture and civilization and the major events from the dawn of history to the 20th century and to provide them a general overview of the world; post- war political and historical scenario.

Specific objectives

The specific objectives of this course are:

1. to make the students understand the early civilization of the Indian subcontinent, Egypt, Mesopotamia, China and identify their impacts on Europe, especially Greece and Rome;
2. to acquaint them with the teachings of Bhagawad Geeta as well as the teachings of prominent social and religious thinkers like Gautam Buddha, Vardhaman Mahavir, Jesus Christ and Prophet (Hazrat) Mohammad;
3. to make them see the history of the Medieval period as a vital link between the Ancient and the Modern civilizations; and
4. to make them assess the era of revolution in Europe and America from 1688 to 1917 which had its impact on the growth of nationalism in Europe and its positive and negative impacts on the present social political and economic institutions worldwide.

Course Scheme

Units	Chapters	Teaching Hours
1	Ancient Civilizations	45
2	Medieval and Modern World	90
3	International Treaties and Organizations	15
	Total	**150**

Course Contents

Unit 1: Ancient Civilizations **45 teaching hours**

- Outstanding contributions of the following civilizations as well as social,
  - Economic and religious life of the people 5 hrs
  - Contributions of Egyptian civilizations 5 hrs
  - Contributions of Mesopotamian civilizations 5 hrs
  - Contributions of Chinese civilizations 5 hrs
  - Contributions of Greek civilizations 5 hrs
  - Contributions of Roman civilizations 5 hrs
  - The Vedic Aryans. 4 hrs
- Teachings of
  - Bhagwat Gita 4 hrs
  - Gautam Buddha 3 hrs
  - Mahavir Vardhamana 2 hrs
  - Jesus Christ 2 hrs
  - Muhammed Hazrat 2 hrs

Unit 2: Medieval and Modern World **90 teaching hrs**

- From the Dark Ages to the Modern Period
  - The rise and fall of Feudalism 4 hrs
  - Renaissance - causes, nature and effects 8 hrs
  - Reformation - causes, nature and effects 6 hrs
  - Revolutionary age (Green)- causes, nature and effects 6 hrs
  - Glorious Revolution 1688 A.D. 6 hrs
  - American War of Independence 1775-83 A.D. 6 hrs
  - Industrial Revolution 6 hrs
  - French Revolution of 1789 A.D. 8 hrs
  - Russian Revolution of 1917 A.D. 6 hrs
- World Wars: causes and effects
  - First World War - causes and effects 8 hrs
  - Second World War- causes and effects 8 hrs
  - League of Nations - establishment and objectives 6 hrs
  - UNO - establishment, Objectives and organs 12 hrs

Unit 3: International Treaties and Organizations 15 Teaching hours

- General introduction to:
  - North Atlantic Treaty Organization (NATO) 2 hrs
  - WARSAW Pact 2 hrs
  - South Asian Association for Regional Cooperation (SAARC) 4 hrs
  - Association of South East Asian Nations (ASEAN) 3 hrs
  - European Union (EU) 3 hrs

- Organization for African Unity (OAU) 1 hrs

Evaluation Scheme

The evaluation scheme for Grades XI and XII will be as follows:

1. Long answer type questions 5 (4 to be attempted)... 15x4 = 60 marks
1. Short answer type questions 7 (5 to be attempted)... 8x5 = 40 marks

Reference books:·

1. Davies, H.A. -An 0Ltline History of the World.
2. काफ्ले, मायाप्रसाद, विश्वको इतिहास
3. उपाध्याय, रामप्रसाद, विश्वको इतिहास
4. दहाल, पेशर र मिश्र, तीर्थप्रसादः विश्व इतिहासको परिचयः एम.के पब्लिशर्श एण्ड डिस्ट्रीव्यूटर्स, काठमाडौँ
5. सुवेदी राजाराम, मध्यपूर्वको इतिहास, काठमाडौँ, विद्यार्थी पुस्तक भण्डार, २०५८ ।
6. Nehru, Jawaharlal, Glimpses of World History.
7. Roberts, J.M., The Pelican History of the World.
8. NCERT Publication, World Civilizations.
9. देवकोटा, इन्द्रबहादुर, अन्तराष्ट्रिय तथा क्षेत्रीय संगठन अध्ययन
10. अधिकारी, सूर्यमणि, विश्व इतिहासको रुपरेखा ।

***GEOGRAPHY**
Grade: XII

Full marks: 100 (75T + 25P)
Teaching hours :150

I. Introduction

This course has been developed to familiarize the students with the concepts of Human, Economic and Physical Geography of Nepal. It also aims at developing in them the knowledge and skills of data processing, cartography and field study. This is a theory-cum-practical course. The theory part (Human, Economic and Nepal) carries 75 marks and practical portion (Practical Geography) 25 marks. Students are required to pass both the portions separately.

II. General Objectives

Upon completion of this course, the students will be able to:

a. explain the relationship between man and environment;
b. describe the general distribution of major economic activities of the world;
c. describe the physical, economic and social aspects of the Geography of Nepal; and
d. use the basic skills of data processing, cartography and field study.

III. Specific Objectives

Upon completion of this course, the students will be able to:

1. describe the meaning and scope of human geography;
2. explain the meaning and scope of economic geography;
3. point out and explain the relationship between man and environment;
4. describe the production and distribution of major natural resources of the world;
5. classify the world agriculture into major types and describe their major characteristics;
6. describe the production and distribution of iron & steel and cotton textile industries in relation to factors of industrial location;
7. identify and describe the distribution of major modes of world transportation
8. describe the major trends of world population;·
9. list and explain the terms and concepts related to human settlement;
10. divide Nepal into major relief divisions and describe their physiographic characteristics;
11. describe the general climatic conditions of Nepal;
12. list and explain the major economic activities of Nepalese people;
13. point out and describe the trends of population in Nepal;
14. use the basic skills of data processing;
15. represent the geographical data with the help of maps and diagrams; and
16. apply the basic techniques as used in geographical study.

IV. Course Contents:·

Units	Chapters	Teaching Hours
1.	Meaning and Scope of Human Geography	3
2.	Man and Environment	10
3.	world population	9
4.	Human settlement	14
5.	Meaning and Scope of Economic Geography	3
6.	Natural Resources	9
7.	World Agriculture	15
8.	Industry	6
9.	Transport and Communication	5
10.	Relief and Drainage	3
11.	Climate	3
12.	Natural Resources	9
13.	Agriculture	7
14.	Industry	7
15.	Tourism	3
16.	Transportation	2
17.	Population	4
18.	Processing of Data	15
19.	Representation of Data	13
20.	Geographical Field Study	10
	Total	150

V. Course Contents in Detail

Part 1 Human, Economic and Geography of Nepal (Theory)

Section - A. Human Geography

Unit 1 Meaning and Scope of Human Geography

Unit 2 Man and Environment

2.1. Meaning and .elements of environment

2.2. Relationship between man and environment

2.3. Concepts of determinism and possibilism

Unit 3 World Population:

3.1. Growth, distribution and density,

3.2. Factors affecting population distribution

3.3. Migration: Trends, causes and consequences

Unit 4 Human Settlement

4.1. Definition and types

4.2. Characteristics of rural and urban settlement

4.3. Settlement patterns: Linear and circular

4.4. Hierarchy of settlement

4.5. Functional classification of town: Town of primary production, commercial town, industrial town, administrative town, tourist town and miscellaneous town.

Section - B. Economic Geography

Unit 5 Meaning and Scope of Economic Geography

Unit 6 Natural Resources

6.1. Meaning, types and importance of natural resources

6.2. Production and distribution of hydro-power, coal, petroleum and iron in the world.

Unit 7 World Agriculture

7.1. General introduction to major types of agriculture:
(primitive farming, intensive subsistence farming, commercial grain farming and mixed farming.

7 .2. Production and distribution of major crops: Paddy, wheat, sugarcane, tea and cotton.

Unit 8 Industry

8.1. Types of industries: Primary, secondary and tertiary

8.2. Factors of industrial location

8.3. Production and distribution of iron & steel and cotton textile industries in the world

Unit 9 Transportation: Distribution of ocean and air transportations in the world.

Section - C. Geography of Nepal

Unit 10 Relief and drainage

Unit 11 Climate

11.1. Factors affecting the climate of Nepal

11.2. Summer and winter climatic conditions

11.3. Climatic zones

Unit 12 Natural Resources

12.1. Forest resources : Major types; problems of deforestation and measures of conservation

12.2. Water resources: Importance, prospects and problems of its development

Unit 13 Agriculture

13.1. Production and distribution of paddy, wheat, millet, jute, tea, sugarcane and cardamom.

13.2. Horticulture: Importance and prospects

Unit 14 Industry

14.1. Cottage industries: Major types and their importance

14.2. Medium and large scale industries: Carpet, garment, cement and sugar

Unit 15 Tourism : Importance, prospects and problems.

Unit 16 Transportation: Distribution & development of roadways and airways

Unit 17. Population : Growth, structure, distribution and migration

Part - II. Practical Geography (Practical)

Unit 18 Processing of Data

18.1. Tabulation of data

18.2. Processing of data : Measure of central tendency (mean, median and mode); partition values (quartiles and deciles)

Unit 19. Representation of Data

19.1. Construction of diagrams: Line graph, bar diagram, histogram, wheel diagram (Bar and diagram should be based on field study data)

19. 2. Preparation of thematic maps (coloring and shading)

Unit 20. Geographical Field Study (Local Survey)

Selection of topics, preparation of data gathering instruments, observation and data collection in the field and preparation of report.

Suggested Topics for Geographical Field Study

i. Agricultural land use survey of a particular area
ii. Household survey of a village or a locality
iii. Sources of irrigation for farming in a village
iv. Means of personal transport in a locality
v. Agricultural implements used in a village
vi. Quantity and types of manures and fertilizers used in a village
vii. Traffic flow survey of a locality at different hours of a day
viii. Occupational pattern of people in a village or in a locality
ix. Survey of different types of shops in a locality and their relationship with population
x. Survey of the geographical phenomena in a limited area

Student's Requirements for Practical Geography

- Students must submit the practical record book and the field study report (minimum 10 pages) to the department before the practical examination
- Students must participate in the field study as organized by the department
- The report must be based on student's direct observation and on the data collected in the field
- Maps and photographs should be used in the report

VI. Instructional techniques

1. Lecture, explanation and illustration
2. Demonstration and discussion
3. Individual and group work/project
4. Observation and report working
5. Self study and practice

Evaluation Scheme

Evaluation will be done mainly to measure the achievement of the students. It will be done mainly through written test. Schools can apply various internal evaluation devices to upgrade their teaching learning situation. But there will not be separate mark for internal evaluation. Marks secured in the annual examination will be the only criteria for passing the examination.

Assessment Techniques and Mark Distribution

Written examination: 75 marks

Unit wise mark distribution:

Unit 1 to 4 - 25 marks
Unit 5 to 9 - 25 marks
Unit 10 to 17 - 25 marks

The evaluation of the students on the theory portion of the course will be done on the basis of long answer, short answer and very short answer questions. Altogether nineteen questions will be asked covering most of the units and the students will be required to attempt only fifteen of them.

Specification Grids (Theory)

Type of Questions	Total Questions to be asked	Total Questions to be answered	Total marks
Long answer questions	3	2	2x12.5=25
Short answer questions	10	8	8x5=40
Very short questions	6	5	5x2=10
Total	19	15	75

Practical examination: 25 marks

Mark distribution:

1. Practical paper - 16 marks
2. Practical record book - 2 marks.
3. Field study report - 3 marks.
4. Viva-voce - 4 marks

The evaluation of tile students on the practical portion of the course will be done on the basis of long answer and short answer questions of 3 hours duration. In the practical examination, six questions will be asked (Three from unit 18, two from unit 19 and one from unit 20) and the students will have to attempt only four questions selecting at least one from each unit.

Specification Grids (Practical)

Type of Questions	Total Questions be asked	Total to be answered	Marks
Long answer questions	3	2	2x5 = 10
Short answer questions	3	2	2x3= 6
	6	4	16

Reference books:

1. Kadel, Narayan Pd., *Simple Practical Geography* (Recent Edition), Bidhyarthi Pustak Bhandar, Kathmandu.
2. Khaniya, Prem Raj. *Geography of Nepal(Recent* Edition), Bidhyarthi Pustak Bhandar, Kathmandu.
3. Poudel, Narayan Prasad, *Human and Economic Geography* (Recent Edition). Gyan Kunj Prakashan, Kathmandu.
4. Bhandari, Bishnu Hari *Economic Geography* (Recent Edition). Ratna Pustak Bhandar, Kathmandu.
5. Leong, Gho Cheng and Mergan, Gillian C, *Human and Economic Geography* (Recent Edition). Oxford University Press; Singapore.
6. Leong, Gho Cheng, *Certificate Physical and Human Geography* (Recent Edition), Oxford University Press, Delhi.
7. Poudel, Padma Chandra and Ram Chandra Poudel, *Practical Geography* (Recent Edition), Ratna Pustak Bhandar.
8. Shrestha, Chandra Bahadur, *Manab Bhugol* (Recent Edition). Pustak Sadan, Bhaktapur.
9. Shrestha, Saran Hari, *Nepalko Arthik Tatha Manab Bhugol* (Recent Edition), Educational Enterprises, Kathmandu.

(CULT-151)

CULTURE
Grade: XII

Full marks : 100
Teaching hours: 150

I. Introduction

The study of culture helps to understand the dynamics of human society and provides sound knowledge of the present and the future problems that the human race may encounter. The present course has been devised incorporating the various elements of culture since the very dawn of human civilization to understand the dynamism of the culture of Nepal. This course will help the students to appreciate the gnosis of evolution of human culture, particularly of numerous ethnic groups practising their socio-cultural traditions and political and economic systems in different forms.

II. General Objectives

The general objectives of this course are:

a. to provide basic knowledge of archaeology of Nepal; and
b. to prepare trained junior level personnel for works at the Ministry of Education and Culture; Ministry of Tourism and tourism related organization, Department of Archaeology, National Museum and various art-galleries.

III. Specific Objective

On the completion of this course the students will be able to:

1. appreciate the art and architecture of Nepal; and
2. got the basic knowledge of cultural tourism and muscology with special reference, to Nepal.

IV. Course Contents

Archaeology, Art and Architecture of Nepal

a. Archaeology (40 marks) 60 teaching hours

- Definition of archaeology and its. importance for the study of human evolution, civilization and culture,
- An introductory study of the archaeological remains of Lumbini and Kapilvastu.
- Significance of inscriptions and coins in the study of history and culture of Nepal.
- A brief study of the stone tools of Nepal.
- Evolution of man with special reference of Australopithecus, Homo Erects (Java and Peking men), Neanderthal Man and Homo Sapiens.
- Chief features of Paleolithic, Mesolithic and Neolithic periods.
- A brief study of Indus Valley Civilization.

b. Art and Architecture of Nepal (40 marks) 60 teaching hours

- A brief study of the stone, wood and bronze arts and paintings of Nepal.
- An outline study of the Stupas, Pagodas, Sikhara Temples and Viharas of Nepal.
- An outline study of the Palace Squares of the Kathmandu Valley.
- Chief feature of the Lichchhavi and Malla arts of Nepal.

c. Cultural Tourism and Museology (20 marks) 30 teaching hours

- Development of tourism in Nepal.
- Meaning, Historical Development, Types and significance of tourism.
- Impact of Tourism.
- Cultural significance of important touristic places of the Kathmandu Valley, Lumbini, Janakpur and Annapurna Region (Sagarmatha National Park).
- Meaning, types and importance of Museum.
- An introduction of the National and Regional Museums of Nepal.
- Importance of Museums in the promotion of cultural tourism.

V.Evaluation Scheme

Long answer questions	60%	4x15=60
Short answer questions	40%	8x15=40

VI.Reference books:

1. खत्री, प्रेमकुमार र खरेल गंगा, नेपालको पुरातत्व, कल र पर्यटन, साझा प्रकाशन, २०५५ ।
2. Dwivedi, P.K., *Sangrahalaya Ra Samaja*
3. Khatri, Prem Kumar & Peshal Dahal, *Nepali Sanskriti Ra Sabhyata*
4. Sharma, D.R., *Prarambhika Purattatva Vigyan*
5. S.M., *Nepali Dhatu Murtikala*

POLITICAL SCIENCE
Grade: XII

Full Marks: 100
Teaching hours: 150

I. Introduction

This course Political Science II (for Grade XII) is the complement of the contents of Grade XI Specifically, this course is designed to familiarize the students with the constitution, political processes, and civil government system of Nepal. This is a theoretical course

II. General Objectives

The general objectives of this course are to:

1. acquaint the students with the structural and functional aspects of governance in Nepal; and
2. familiarize them with the basic objectives functioning ofNepal's foreign policy.

III. Specific Objectives

At the end of the course, the students will be able to:

1. explain the meaning and types of constitution;
2. explain the salient features of the Nepalese constitution;
3. describe the working of democracy in the country;
4. discuss the administrative system in the country; and
5. state the foreign policy of Nepal in relation to neighboring countries and international organizations.

IV. Course Scheme

Units Chapters

Group- A (50 marks)	**Teaching Hours**
1 Constitutionalism	10
2 Political and Constitutional Development in Nepal	18
3 Government	12
4 Fundamental Rights, Duties and Citizenship	7
5 Major Political Parties of Nepal	10
6 Electoral Process in Nepal	10
7 Foreign Policy of Nepal	8

Group B- (50 marks)

1 Public Administration	16
2 Personnel Administration	16
3 Budgetary Process of Nepal	10

4 Decentralization and Local Development	33
Total	**150**

V. Course Contents

Group A **50 marks**

75 hrs

Unit I: Constitutionalism **10 hrs**

1.1 Concepts of constitution

1.2 Types of constitution

i. Flexible and Rigid
ii. Written and Unwritten
iii. evolved and enacted

Unit II: Political and Constitutional Development in Nepal **18 hrs**

1. A brief account of the political and constitution development since 1948
2. 950 Revolution and its aftermath (in brief)
3. 1990 Movement for the restoration of democracy.
4. Political Movement of 2006 and its aftermath.
5. Main features of the interim constitution 2063 Bs

Unit III: Government **12 hrs**

1. Legislature: Composition and functions of the Legislature parliament
2. Executive : Composition and functions of the council of ministers
3. Judiciary: Composition and functions of the supreme court

Unit IV: Fundamental Rights and Citizenship **7 hrs**

Unit V: Major Political Parties of Nepal **10 hrs**

1. Origin, growth and characteristics of political parties of Nepal

Unit VI: Electoral Process in Nepal **10 hrs**

1. Theories of Representation
2. Electoral systems: first past the post system(FPPS), proportional representation (PR) and Mixed system
3. Elections of Constituent Assembly
4. Local Elections

Unit VII: Foreign Policy of Nepal **8 hrs**

1. Objective Determinants and features of the Nepalese foreign policy.

Group B **50 Marks**

75 hrs

Unit I: Public Administration **16 hrs**

l. Concepts 2. Scope

3. Approaches to the study of public Administration

Unit H: Personnel Administration **16 hrs**

1. Concept and functions 2. Recruitment

3. Promotion 4. Retirement

Unit III: Budgetary Processes of Nepal **10 hrs**

1. Preparation of Budget
2. Implementation of Budget
3. Evaluation of Budget

Unit IV: Decentralization and Local Development **33 hrs**

1. Concept of Decentralization, History of Decentralization in Nepal since 1962 AD.
2. VDC/ Municipalities and DDC: Composition, Power and functions.
3. Role of chief District officer (CDO) and Local Development officer (LDO).

VI. Evaluation Scheme

Marks Division		
Long answer questions	60%	3x20=60
Short answer questions	40%	5x8=40

VII. Instructional Strategies

Discussion Project work Pear work Group work etc.

VIII. Reference books:

१. श्रेष्ठ, अमन र काफ्ले, माया प्रसाद, नेपालको शासन र प्रशासन, विराटनगर : काफ्ले प्रकाशन ।

२. पोखरेल, कृष्ण (२०५९) नेपालको शासन र प्रशासन, काठमाडौँ : एम.के. पब्लिशर्स एण्ड डिस्ट्रीव्युटर्स ।

३. दाहाल, रामकुमार (२०६४) नेपालको राजनीति र सरकार, काठमाडौँ : भुँडी पुराण प्रकाशन ।

४. दाहाल रामकुमार (२०६४), नेपालको राजनैतिक व्यवस्था, काठमाडौँ : दिक्षान्त पुस्तक भण्डार ।

५. थापा, षडमुख बहादुर (२०५०), नेपाल सरकार र प्रशासन, काठमाडौँ : रत्न पुस्तक भण्डार ।

६. रेग्मी, शिरिषचन्द्र, नेपालको सरकार र प्रशासन, काठमाडौँ : शैल प्रकाशन ।

७. Kapoor, A.L. (1197), Principle of Political Science, New Delhi: S Chand and co.

८. Muni, S.D., Foreign Policy of Nepal, Delhi.

POPULATION STUDIES

GRADE: XII

Introduction - General objectives - Specific objectives - Contents - Instructional materials Instructional techniques - Evaluation scheme - Prescribed textbooks - References

Full marks: 100 (80 T. + 20 P.)

Pass marks: 28 T. + 8 P.

Teaching hours: 150

I. Introduction

This course is designed to acquaint the students with the concept, knowledge and dynamics of population, population policy and program with reference to Nepal, consequences of rapid population growth (RPG), family life education, family size, quality of life, family welfare, adolescent sexual reproductive health, family planning, sexually transmitted diseases like HIV/AIDS and their control measures, descriptive statistic in population analysis and research on population related issues.

This course is intended to be a link between the secondary school level of population education and the bachelor's level of population education/studies at the university and has two parts: theoretical (80%) and practical (20%). The students are required to pass both the parts separately.

II. General Objectives

The general objectives of this course are:

a. to help students develop desirable behaviors and attitudes towards population issues; and
b. to inculcate in them rational decisions about desired family size and other population related matters.

III. Specific Objectives

At the end of Grade XII, the students will be able to:

1. explain the current policies, programs and activities relating to population in Nepal;
2. explain the causes and consequences of rapid population growth (RPG) in Nepal;
3. describe the concept of family and its roles, relationships, responsibilities and life cycle;
4. explain the role of delayed marriage and responsible parenthood in improving the quality of life;
5. discuss the status of women and children;
6. discuss the relationship between family size and quality of life;·
7. explain the factors leading to acceptability of small family norm;
8. analyze customs and laws relating to marriage age;
9. discuss the role of BCC/IEC (Behavioral Communication Changes/Information Education and Communication) in promoting family planning services;
10. explain different sexually transmitted infections;
11. discuss the concept, need and importance of ASRH;

12. describe the current issues and problems of adolescents and their management;
13. identify the concept, need, importance and components of reproductive health;
14. discuss the concept, objectives, scope and devices of family planning;
15. discuss the belief and attitudes of people towards family planning;
16. explain the structure and function of human reproductive. system and discuss the reproductive process;
17. state the problems and consequences of abortion; miscarriage and still birth;
18. state the concept, need, importance and scope of sex education;
19. discuss the common sexual behaviors and misbehaviors, sexually transmitted diseases (STDs), HIV/AIDS, and their management;
20. acquire skills in statistical techniques involving ·measures of central tendency and dispersion as well as in drawing graphs/diagrams; and
21. present demographic data diagrammatically.

IV. Course Scheme:

Units	Chapters	Teaching hours
1.	Population policy and Program in Nepal	15
2.	Causes & Consequences of Rapid Population Growth(RPG)	15
3.	Family life Education	15
4.	Quality of Life	12
5.	Adolescent & Reproductive Health	35
6.	Sex Education, STDs and HIV/AIDS	8
7.	Descriptive Statistics in Population Analysis	35
8.	Research on Population Related Issues	15
	Total	**150**

V. Course Contents

1. Population policy and Program in Nepal 15 teaching hours

- Definition
- Goals of replacement level by the year 2017 A.D.
- Population program and activities of different agencies in Nepal : Government organizations (GOs), Non-government organizations (NGOs), International organizations (INGOs).
- Different five-year population plans:
- Current population policies of Nepal.

2. Causes & Consequences of Rapid Population Growth (RPG)

15 teaching hours

- Causes: Fertility, Mortality and Migration.
- Consequences/ Impacts of rapid population growth (RPG) on:
  - housing, food and land
  - environment: natural and human resources

* natural resources: forest, drinking water, mining
* human resources: employment, health and education.

3. Family Life Education **15 teaching hours**

- Concepts, types and functions of family:
  - concepts of family,
  - types of family: nuclear (small), joint or large family,
  - functions of family.
- Family roles, relationships and responsibility:

-role of the family,

  - relationship and responsibilities of members (adolescence couples, parents, elderlys, and adults) in a family.
- Family life cycle:
  - founding stage,
  - expanding stage,
  - schooling stage,
  - launching stage,
  - retirement stage
- Family resources:
  - employment,
  - land,
  - other resources
- Marriage:

i. concepts
ii. importance
iii. marriage proposes: child marriage, early marriage and delayed marriage
iv. appropriate age at marriage: concepts, characteristics and their impact on fertility

- Responsible parenthood:
  - raring the children,
  - fulfillment of basic needs for children,
  - decision making for the bright future of children,
  - leader as the head of the household.
- Gender prospective and rights
  - gender role
  - gender equity, equality and women empowerment
  - girls trafficking
  - status of women
  - reproductive rights
  - status of children
  - child rights

4. Quality of Life **12 teaching hours**

- concepts of quality of life
- importance of quality of life
- factors affecting of quality of life
- characteristics of large family size.
- consequences of large family size·
- advantages and disadvantages of a large family size on quality of life
- advantages & disadvantages of small family size on quality of life
- parent education: concepts, current issues in the context of population and development
- quality of small family size
- promoting acceptability of small family norm: acceptable small family norm, promoting small family norm.

5. Adolescent & Reproductive Health **35 teaching hours**

A. Adolescence

- Concepts
- Role and importance of adolescence in development aspects (education, health, infrastructure and security management).
- Puberty and changes· (physical, psychological, mental, social and emotional)
- Issues and problems
  - mental tension/frustration
  - drug-abuse and alcohol
  - peer pressure
  - sexual abuse
  - unsafe sex
  - teenage pregnancy and unwanted pregnancy
  - imitation (of destructive behaviors)
  - misbehavior
  - arrogance
- Management of Adolescent's Issues and Problems
  - guidance and counseling
  - safe sexual behavior
  - peer education
  - involvement in creative activities
  - access to reproductive health services/facilities
  - negotiation and understanding

B. Reproductive Health

- concepts

- needs and importance
- components/aspects of reproductive health:
  - family planning
  - safe motherhood
  - infant and child health care
  - control of unsafe abortion and its consequences
  - RTIs STDs and HIV/AIDS
  - adolescent reproductive and sexual health
  - control and treatment of infertility
  - reproductive health problems of adult men/women
- Family Planning
  - concepts, objectives, scope and importance of family planning
  - indirect methods: ASRH education, birth spacing, breast-feeding and women empowerment
  - direct methods: natural and artificial family planning devices in Nepal
  - family planning services and delivery system in Nepal
  - belief and attitude towards family planning in Nepal
- IEC/BCC (Behavioral Communication and Changes) to Family Planning
- Human Reproductive System (male and female)
- Reproductive Health Process
  - menstruation
  - sperm formation
  - sterility
  - infertility
  - conception
  - sex determination
  - pregnancy
  - delivery
  - menopause
- Problems and Consequences of
  - abortion
  - miscarriage
  - still birth (immature birth)

6. Sex Education, STDs and HIV/AIDS 8 teaching hours

- Sex Education
  - concepts
  - needs and importance
  - scope
  - sexual behaviors (dating, masturbation, love/affection, attraction to opposite sex)
  - sexual misbehavior (sexual harassment, sexual abuse, sexual violence)

- Sexually Transmitted Diseases and HIV/AIDS
  - concept (syphilis, gonorrhoea, hepatitis 'C', HIV/AIDS and RTI)
  - modes of transmission
  - symptoms
  - preventive and controlling measures

7. Descriptive Statistics in Population Analysis 35 teaching hours

- Summarization of data
  i. Frequency distribution of the given data
  ii. ii: Bar-graphs (bar-chart)
  iii. Pictographs
  iv. Circle-graphs (pie-chart)
  v. Histogram
- Measures of Location
  i. Mean (arithmetic average)
  ii. Median
  iii. Mode
  iv. Quartiles and percentiles
- Measures of Dispersion (absolute and relative measure)
  i. Range, coefficient of range
  ii. Mean deviation from mean, median and mode
  iii. Quartile deviation and coefficient of quartile deviation
  iv. Variance, standard deviation and coefficient variation
- Co-relation and regression analysis
- X^2- test (chi. square distribution and test)
- Types of sampling.

8. Research on Population Related Issues 15 teaching hours

(I) Format of Research Report Writing

1. Introduction:
   - Background
   - Ecological & Development Region, Zone, District, Urban/V.D.C, and Tole.
     a. Statement of problem.
     b. Objective of study
     c. Limitation of study : place, subject, time.

2. Review of related literature

At least three literature reviews must be included in the report.

3. Methodology of Study
   - Source of data.
   - Technique of analysis by using table (should be in percentages)
   - Demographic and statistical tools.

4. Interpretation of Data:

- Explain the tables
- Analyze the data using demographic and statistical tools of the subject matters.

5. Conclusion, Recommendation:

- Conclusion based on the interpretation of data
- Recommendation based on the conclusion.

6. References:

7. Appendix:

(i) Questionnaire

(ii) Basic Information on Population Related Issues for Research Work

1. Compulsory information on characteristics of the sample population: Name of the household, age, sex, ethnicity, language, education (literate/illiterate, educational level), marital and health status and occupation of 20 households in Nepal.
2. Choose any one of the following topics for detail information: Fertility, Mortality, Migration, Reproductive health, family Planning, Sexually Transmitted Diseases and Quality of Life in Nepal.

Instructional Materials

- Atlas/Globe
- National Report Census 2001 (CBS). Kathmandu .
- Population Monograph of Nepal (1987, 1995 and 2003)
- World Population Data (Current year) ESCAP, Bangkok .
- National Planning Commission 7th plan to current plan)

Instructional Techniques

- Teacher centered techniques
- Student-centered techniques:

a. role play
b. demonstration
c. discussion
d. individual /group work
e. field work/project work etc
f. report presentation
g. self-study

- Any other appropriate techniques.

Scheme of Assessment

S.N.	Type of Questions	Duration	Number of Questions	Maximum Marks	Full Marks	Pass Marks
1	Th. Short	3	6	6x8=48	80	28

2	Th. Long		2	2x16=32		
3	practicum	-	Report+ viva	20	20	8

The candidates are required to attempt 6 short questions out of 8 and 2 questions out of 3.

Reference books:

1. Bista, Premsing et.al, Population Studies-XII, Bhundipuran Prakashan, ktm.

PHILOSOPHY
Grade: XII

Full marks : 100
Teaching hours: 150

I. Introduction

This course is continuation of the Philosophy studies of Grade XI. In the second year of the 10+2 the students will study Inductive the definition and importance of Philosophy, and Buddha's teachings of Four Noble Truths. Learning begins with the experience of this world and it is advanced with the curiosity around one's life, experiences. Every human being behaves on the basis of the knowledge he has gained first by thinking and then imitation. The process of thinking involved in learning develops some ideas and beliefs on the basis of which an individual leads his life and so it is said that every human being lives his life according to some metaphysics and so it is also regarded that the views in accordance with which one leads the life is a choice between good and bad metaphysics and not between some metaphysics and no metaphysics. So philosophy is viewed as a parent study of all kinds of studies which helps promote our social values with proper process of thinking

II.General Objectives

This course provides elementary orientation to:

a)the definition and characteristics of the scientific Induction, Hypothesis, Analogy, Classification and the value of Philosophy along with the practical aspect of the Four Noble Truths.

III. Specific Objectives

upon completion of the course the students will be acquainted with:

a. the methods of induction;
b. the formal and material grounds of induction;
c. conception of hypothesis;
d. mill's experimental method;
e. meaning of Analogy;
f. nature of chance and probability;
g. meaning of explanation;
h. nature of classification; and
i. definition of philosophy and four noble truths as propounded by Buddha.

IV. Course Contents

Unit I **10 teaching hours**

Scientific Induction: Its definition, characteristics, its relation to unscientific induction and relation between induction and deduction, kind of induction. :

Unit II **7 teaching hours**

The Method of Induction: Its different steps and their relative importance.

Unit III **15 teaching hours**

Formal Grounds of Induction:

a. The law of uniformity of nature, ground of belief in the uniformity of nature paradox of induction.
b. The law of causation- its meaning, definition of cause, its marks or characteristics (qualitative and quantitative) - plurality of causes, cause and condition, conjunction of causes and intermixture of effect.

Unit IV

Material Grounds of Induction:

a. Observation: its meaning -conditions and fallacies of observation.
b. Experiment: its meaning - observation and experiment compared.
c. Relative advantages of observation and experiment.

Unit V **15 teaching hours**

Hypothesis: Meaning of hypothesis - forms of hypothesis, conditions of legitimate hypothesis, proofs of hypothesis, hypothesis theory, law and working hypothesis and representative fiction - uses of hypothesis.

Unit VI **18 teaching hours**

The Experimental Method: its nature and importance of elimination and relation to the Experimental Methods.

a. The method of agreement
b. The method of difference
c. The joint method of agreement and difference
d. The method of. concomitant variation.
e. The method of-residues- criticism of the methods.

Unit VII **10 teaching hours**

Inference from Analogy: meaning of analogy - nature of argument from analogy, its relation to scientific induction, strength of analogical argument good and bad analogy.

Unit VIII **15 teaching hours**

Chance and Probability: their meaning - rules for calculation of chance or estimation of probability.

Unit IX **10 teaching hours**

Explanation : Nature - popular and scientific forms and limits of scientific explanation, fallacies of explanation.

Unit X **10 teaching hours**

Classification : definition, kinds, uses, rules of classification, classification by type or by definition.

Unit XI **15 teaching hours**

Logical Fallacies, Fallacies of observation. Illicit generalization, fallacies of causation, petitio principli, ignoratio elenchi.

Unit XII **15 teaching hours**

Philosophy :

1. Definition of philosophy and its importance.
2. Four Noble truths according to Lord Buddha.

V. · **Reference books:.**

1. Mitra, A. C., *The Principles of Inductive Logic,* Sarkar and Sons Ltd.
2. Ray, B.N., *Textbook of Inductive Logic,* Sarkar and Sons Ltd.
3. Chatterjee & Dutta, *An Introduction to Indian Philosophy.*
4. *Historyo f Indian Philosophy.*
5. Sharma, Chandradhar, *A critical Survey of Indian Philosophy.*
6. मल्लिक, जगदिश नारायण, आगमन तर्कशास्त्र, प्रकाशकः भारती भवन, राँची ।
7. तिवारी, केदारनाथ, आगमन तर्कशास्त्र, प्रकाशकः भारती भवन राँची ।
8. प्रसाद, भोला, आगमन तर्कशास्त्र, प्रकाशक : भारती भवन राँची ।

PSYCHOLOGY
Grade: XII
(Elements of Psychology)

*Full marks: 1*00
Teaching hours : 150

I. Introduction

This course for Psychology II (Applied Psychology) is designed to maintain the continuity of the learning materials prescribed in Psychology I of Grade XI It 8emands selected additional theoretical and practical components required for the upgraded learners. This course is designed for deeper and wider understanding of Psychology in relation to Societal input in Psychology. This course requires the perfect digestion of elements presented in Psychology I. The course comprises six units. First two Units are related to social and management Psychology. They describe the personality, communication as a means to maintain the pleasant interpersonal relationship, attitude and leadership. Unit 3, a part of clinical Psychology, deals with occupational adjustment, abnormalities, mental retardation and behavioral problems.Unit 4 is about the psychological applications in various fields like education medical sciences and social work. This is the introductory unit of guidance and counseling. Unit 5 is research oriented section of this syllabus. It assists the students to impart the basic concept of the application of statistics in psychology and research activities. The last unit is devised for the practical work to build up their further confidence in psychological applications.

II. General Objectives

The general objectives of this course are:

1. to make the students understand about the different parameters of individual differences and personality;
2. to make them a resource person in society promoting their ability in communication, group process and leadership;
3. to enhance their adjustment with the moral ethics in society; and
4. to make them aware of the basic statistical methods.

III. Specific Objectives

On completion of this course, the students will be able to:

1. discuss individual differences and functioning of personality;
2. describe the role of communication. in society and dynamics of group behavior;
3. recognize major forms of mental illness, and describe the measures for their prevention;
4. discuss the role, types and importance of adjustment in the context of mental health;
5. explain the meaning, types, importance, and approaches of guidance and counseling; and
6. make use of their knowledge of descriptive statistics in practice.

IV. Course Contents

Unit 1 : Individual Differences and Personality 25 Teaching hours

1. Individual Differences: determinants of individual differences; individual differences in intelligence, aptitudes, interests, and achievement.
2. Personality: concept: approaches to the study of personality; psychoanalytic approach, trait-approach; types of personality (Kretschmer, Sheldon, and Jung) factor affecting personality.

Unit -2 : Communication and Group Dynamics 25 Teaching hour

1. Communication and Interpersonal Relationship: Communication process and barriers.
2. Attitudes: meaning, characteristics, components.
3. Group factors facilitating group formation; characteristics of group, types of groups, group behavior, leadership. Characteristics, types of leadership.

Unit -3: Adjustment and Mental Health 40 Teaching hours

1. Personal, social and occupational adjustment;
2. Defense mechanisms: rationalization, projection, reaction formation, regression, displacement, fantasy (day-dreaming)· and sublimation.
3. Developmental disorders: Speech- Lisping, Slurring, Stammering, Stuttering.
4. Concept of abnormality four major types and symptoms, Psychosis, Mental Retardation, and Anti-social behavior.
5. Mental retardation: meaning, types, factors affecting, management of retardation.
6. Behavioral Problems, drug addition: juvenile delinquency.

Unit *:4* : Guidance and Counseling 10 teaching hours

Guidance -nature, need and scope

Counseling : nature, types, need and approaches.

Unit -5 : Descriptive Statistics in Psychology 30 Teaching hours

1. Importance of Statistics
2. Presentation of Data : Frequency, distribution, frequency polygon, histogram, bar diagram, pie chart;
3. Measures of Central Tendency: Mean, median, and mode.
4. Measures of Variability- range, average deviation, and standard deviation.

Unit 6 : Practical Work 20 Teaching hours

All practical listed below are compulsory:

1. Serial transformation of verbal material (Rumour method) 4 subjects
2. Block Design Test (Koh's block design)

3. Draw a Man Test for children
4. Cooperation and Competition (Bottle and Beads Experiment): Materials 5 common Rudraksha threads and one beer type bottle for 5 subjects. The size of the beads should be just possible into the bottle only one at a time .

V. Reference books:

1. NCERT : *Psychology for better living,* New Delhi, 1991.
2. Mohsin, S.M., *Fundamental Statistics in Behavioral Psychology,* Motilal Banarasidas, 1988.
3. *Freeman, Psychological Testing.*
4. Mohsin, S.M., *Experiments in Psychology,* Motilal Banarastdas 1985.
5. Mohanty, 8.8., *Abnormal Psychology,* Kalyani Prakashan, 1991.
6. Gulmor, *Applied Psychology.*

SOCIOLOGY
Grade: XII
PAPER II. INTRODUCTION TO SOCIOLOGY AND ANTHROPOLOGY IN NEPAL

Full Marks: 100 (80T+ 20P)
Teaching Hours: 150

1. Introduction

This course is a continuation of Grade XI sociology and aims at enabling students understand Nepali Society and Culture.

2. Objectives

The general objective of the course is to help students familiarize with the development of the disciplines of sociology and anthropology and Nepali culture and society. The specific objectives are:

- to describe the historical development of the disciplines of sociology and anthropology in Nepal;
- to explain the characteristic of Nepali society and culture;
- to explain the issues on caste, class and gender in Nepal; and
- to familiarize with the major religions, major festivals and selected ethnic groups of Nepal.

3. End objectives

At the end of the course the students will be able to follow the history of sociology and anthropology of Nepal and understand social structure, selected social institutions, familiarize with Nepali festivals and describe some selected caste/ethnic groups,

4. Course Contents

Unit I Development of Sociology and Anthropology in Nepali (15 periods)

- History of sociology and anthropology in Nepal (Researches, Teaching and Institutional Development)
- Scope and importance of Sociology and Anthropology in Nepal

Unit II People and Economy of Nepal (35 periods)

A. People

- Population size and distribution (Age, sex, caste/ethnicity, language, religion, ecological region).
- Fertility, mortality and migration of the inhabitants of mountain, hill and Terai,
- Pluralism and diversity : (cultural, demographic, caste/ethnic and class, economic and political)

B. Economy

- Existing subsistence, commercial and industrial economic systems in Nepal

C National Integration

- Historical process of nationhood and cultural integration (language; and customs), normative integration and social integration

Unit III Social Stratification in Nepal (15 periods)

- Caste/ethnicity based social stratification
- Gender based social stratification
- Economy based social stratification

Unit IV Social and Cultural Change in Nepal (15 periods)

- Gradual and planned social and cultural change in Nepal
- Processes of modernization, urbanization, Sanskritization and Hinduization in Nepal
- Factors of social and cultural change in Nepal
- Role of communication and media in social and cultural change in Nepal
- Resistance to social and cultural change .

Unit V Major Religions and· Festivals in Nepal and Their Sociological and Anthropological Implications (40 periods)

Religions

- Introduction to and origin of religion
- Hinduism: Key features, sects: Shaivism, Vaishnavism and Shaktism
- Buddhism: Key features, sects: Vajrayan, Mahayan and Hinayan Islam: Key features, sects: Siya and Sunni
- Christianity: Key features, sects: Catholics and Protestants
- Kirat: Key features

Festivals

- Dashain, Tihar, Holi, Chhath, Lhosar, Id, Christmas

Unit VI Brief Ethnographies of the Peoples of Nepal (30 period)

Ethnography of the Brahman/Chhetri, Chepang, Dhimal, Gurung,Limbu, Magar, Newar, Rai, Sherpa, Tamang, Thakali and Tharu.

(Focus will be given in -the origin, population size and distribution, main features of their social and cultural life, their language, adaptive strategies, overall economy, their role in nation building, relationship with other caset/ethnic groups and recent changes occurred in their everyday life)

Students are required to prepare a paper on any issues related to Nepali society and Culture in consultation with the teacher and must make presentations at end of the academic year. This paper may either be based on literature review or field research. The length of the paper should be within a range of 7-1 0 pages (A4 size paper with double space and font size 12)

Guideline for Teachers

- This course should help the students better familiarize with Nepali culture and society.

- While teaching this course attention should be given to make it as participatory as possible. Students might be from various backgrounds in terms of socio-economic status, caste/ethnicity composition, and sex and value orientations. This itself is an immense treasure and their life experience could form the teaching material. Experience sharing would provide good exposure to all students and this would. lead to smooth teaching and learning.
- Attempt should be made to get input from the students. If the students were from different places (districts/regions) affiliated to different caste/ethnic group & religions, this would provide variability and hence would make the class lively.
- While teaching Unit VI, students should be involved in paper writing. Each student either in a group of 3-5 or individually should be assigned to a fieldwork/literature review and they should be motivated to prepare reports. This assignment should also be Graded and should carry 20 points. Once Graded, this unit should no more become candidate for final examination.

Evaluation Scheme

Long Questions 3 (any two)	12x2	= 24marks
Short Questions 7 (any five)	7 x8	= 56 marks
Internal Assessment/Field Work		20 marks
Full marks		100 marks

Unit wise Allocation of Marks

Unit	Marks allocated
Unit I	10
Unit II	23
Unit III	10
Unit IV	10
Unit V	27
Unit VI	***

*** From this unit (Unit VI), theoretical question should not be asked in the final examination.

References

1. Sharma, Kamal Raj, Introduction to Sociology and Anthropology in Nepal-XI, Sunrise Prakasan Pvt. Ltd, ktm
2. Kharel, Durga, Elementary Sociology and Anthropology-XII
3. Sharma, Kamal Raj, Introduction to Sociology and Anthropology in Nepal-XII Sunrise Prakasan Pvt. Ltd., Ktm
4. Pokherel, Ishwor, Sociology, Ekta Books and Distributors, Ktm.

LINGUISTICS

Grade: XII

Paper II: Applied Linguistics and Languages of Nepal

Full Marks: 100

Teaching Hours: 150

1. Introduction

This course introduces applied linguistics and its applications to language teaching, literary analysis,· dictionary making, translation, mother tongue teaching and literary, and use of computer software in linguistic analysis. In addition to these, basic knowledge of sociolinguistics and psycholinguistics as well as the language situation of Nepal are the part of this course.

2. General Objectives

This course is designed to enable the students to apply linguistics to practical fields such as language teaching, course designing, literary analysis, dictionary making, translation, mother tongue teaching and literacy, and use of computer software in linguistic analysis. In addition, it will also make students familiar with the use of language in society, the cognitive aspect of language and the language situation in Nepal.

3. Specific Objectives

Upon completion of this course, the students will be able to:

a. explain the nature and scope of applied linguistics;
b. apply the knowledge of linguistics in the various practical fields mentioned above; and
c. discuss the existing language situation in Nepal.

4. Course Scheme

Unit	Course Topics	Teaching hours
Unit 1	Applied Linguistics; An Outline	5
Unit 2	Psycholinguistics	15
Unit 3	Sociolinguistics	25
Unit4	Language Teaching	15
Unit 5	Stylistics	10
Unit 6	Lexicography	10
Unit 7	Translation Studies	10
Unit 8	Computational Linguistics	10
Unit 9	Literacy, Mother tongue teaching and MLE	20
Unit 10	Language situation in Nepal	30
	Total	**150**

5. Course Contents

Unit 1: Applied Linguistics **5 Teaching hours**

1.1. Linguistics: Theoretical and applied
1.2. Nature and scope of applied linguistics.
1.3. Application of linguistic knowledge in various fields

Unit II: Psycholinguistics: The Study of language processing and acquisition (15 Teaching hrs)

2.1 Psycholinguistics: the study of language processing and acquisition
2.2 The human ·brain and language
2.3 Language acquisition

Unit III: Sociolinguistics and dialectology: The study of synchronic variations of language (20 Teaching hrs)

3.1 Sociolinguistics: Theory and Practice
3.2 Dialectology: The study of synchronic variations of language
3.3 The concept of dialect and register
3.4 Social dialects
3.5 Regional dialects

Unit IV: Language teaching **15 teaching hours**

4.1 Language teaching
4.2 Contrastive analysis
4.3 Error analysis
4.4 The structure of the syllabus
4.5 Pedagogical grammar
4.6 Language Testing

Unit V: Stylistics **10 teaching hours**

5.1 Definition of stylistics
5.2 Applying linguistics to literary analysis
5.3 Cohesion: phonological, morphological syntactic and semantic
5.4 The stylistic analysis of a given poem

Unit VI: Lexicography **10 teaching hours**

6.1 Lexicography: Art and science of dictionary making
6.2 Types of dictionaries
6.3 Dictionary entries
6.4 Lexicography in Nepal (brief history of lexicography, online dictionaries)

Unit VII: Translations studies (10 Teaching hrs)

7.1 Definition of translation- linguistic and literary point of views
7.2 Translation studies, its name and nature
7.3 Types of translation- literary and scientific
7.4 Importance and need for translation
7.5 Translation practices in Nepal

Unit VIII: Computational Linguistics 10 Teaching hours

8.1 Definition
8.2 Application
8.3 Building a language corpus
8.3 Use of computer in dictionary making and language analysis
8.4 Machine translation

Unit IX: Literacy, Mother tongue teaching and Multilingual education
(20 Teaching hrs)

9.1 Definition of literacy
9.2 Language as a medium and subject in education
9.3 Current situation of literacy in the developed and developing countries with special reference to Nepal
9.4 Role of linguistics in literacy and mother tongue education in Nepal
9.5 Multilingual Education

Unit X: Languages and linguistic situation in Nepal

(30 Teaching hrs)

10.1 Languages of Nepal
10.2 Distribution of languages in Nepal .
10.3 Genetic Affiliation
10.4 Writing systems
10.5 Languages and ethnicity
10.6 Language endangerment
10.7 Language policy and planning in Nepal

6. Textbooks

(To be prepared by a team of linguists)

7. Evaluation Scheme

7.1 There will be a question paper carrying 100 marks for 3-hour duration.
7.2 Questions will tie structured as follows:
(a) Long answer to 4 questions;
(b) Short answer to 2 out of 3 questions;
(c) Short notes on 4 out of 6 questions; and

(d) Question number 7 is compulsory. Students are required to attempt other 4 questions.

7.3 Questions can be set from different units of this course as follows:

Unit No	Teaching hours	Topic	Long Questions	Short Questions	Short Notes
1.	5	Applied Linguistics;	1	-	1
2.	15	Psycholinguistics	-	1	1
3.	20	Sociolinguistics	1	1	1
4.	15	Language Teaching	1	1	1
5.	10	Lexicography	1	1	1
6.	10	Stylistics	1	1	1
7.	10	Translation Studies	1	1	1
8.	10	Computational Linguistics	-	1	1
9.	20	Literary	1	1	1
10.	25	Languages	1	1	1

Total:150 Teaching hours

8. Reference books:

- Bandu, C.M. 2053 VS. Bhasha Vijnan. Kathmandu: Sajha Prakashan.
- Bhattari, G.R. 1997. An Introduction to Translation Studies. Ratna Pustak Bhandar.
- Crystal, D. 1971. Linguistics. Pelican Books .
- Crystal, D. 1992. Introducing Linguistics. Penguin
- Krishnaswami. N. et . al. 1992. Modern Applied Linguistics. Madras: Macmillan India limited.
- Syal, P. & D.V. Jindal. 1S98. An introduction to Linguistics: Language, Grammar and Semantic. New Delhi: Prentice Hall of India.
- Yadava, Y.P. 2003. Language: Population Monograph. Kathmandu: CBS
- Yule, G. 1996. The Study of Language. Cambridge University Press.

नृत्य

कक्षाः १२

पूर्णाङ्कः १०० (२५सै+७५ प्र)

पाठ्यभार : १५०

अंक विभाजन

सैद्धान्तिक तथा प्रयोगात्मक

	भार	कक्षा	भार	कक्षा	जम्मा+	कक्षा
१. नेपाली लोक नृत्य	२४	२४	८	२४	२९	४८
२. नेपाली शास्त्रीय नृत्य	२४	२४	८	२४	२९	४८
३. भारतीय शास्त्रीय नृत्य	२७	२७	९	२७	३२	५४
४. संक्षिप्त जीवन					१०	
	७५	७५	२५	७५	१००	१५०

क) सैद्धान्तिक परीक्षाको २५ अंकमा उत्तीर्णाङ्क ८ हुनेछ ।

ख) प्रयोगात्मक परीक्षाको ७५ अंकमा उत्तीर्णाङ्क २७ हुनेछ ।

ग) प्रयोगात्मक परीक्षा हुँदा आन्तरिक परीक्षकले १८ अंक प्रदान गर्न सक्नेछ ।

घ) प्रयोगात्मक परीक्षा हुँदा बाह्य परीक्षकले १७ अंक दिन सक्नेछ ।

ङ) प्रयोगात्मक परीक्षामा ७५ मा उत्तीर्णाङ्क २७ हुनेछ ।

च) परीक्षार्थीले सैद्धान्तिक र प्रयोगात्मक दुवैमा छुट्टाछुट्टै उत्तीर्ण हुन अनिवार्य हुनेछ ।

१. विभिन्न लोकनाच मध्ये

क) धिन्तामै ख) चुड्का ग) टप्पा घ) तामाङ सेलो वा ङ) ख्याली नाचके परिचय

च) लोकनाचको अभिनयसँग सम्बन्ध

२. नेपाली शास्त्रीय नृत्यमध्येः

क) रङ्गमञ्चको ज्ञान

ख) नवरसको साधारण ज्ञान

ग) नृत्यको अरू ललितकलाहरूसँग सम्बन्ध

घ) रक्त गणेश नृत्य

ङ) कुमारी नृत्य

च) अन्नपूर्ण नृत्य

३. शास्त्रीय नृत्यमध्ये

क) भरत नाट्यम्मध्ये

अ) भरत नाट्यम्को परिचय

आ) अल्लारिपू

इ) जतिश्वरम्

ई) संयुक्त हस्तमुद्रा

उ) असंयुक्त हस्तमुद्राको विनियोग

ऊ) सप्ततालमा जाति अनुसार मात्रा फरक

ओ) भरतनाट्यम्मा पर्ने ताल, वाद्य, र भेषभुषाको परिचय ।

अथवा,

ख) कत्थक मध्ये

अ) कत्थक परिचय

आ) असंयुक्तको विनियोग

इ) संयुक्त हस्तमुद्रा

ई) कविता तोडा त्रितालमा

उ) गत निकास त्रितालमा

ऊ) चक्रदार तोडा

ओ) कत्थकको भेषभुषाको परिचय ।

एकाईको उद्देश्य	विषयसूचीका खण्डहरू	प्रत्येक एकाईलाई समय वा कक्षा विभाजन
उल्लिखित पाठ्यांशहरूको बोध गराउने	१. क) विभिन्न लोकचाच मध्ये : अ) घिन्तामै नाचको परिचय	२४

	आ) चुड्का नाचको परिचय इ) टप्पा नाचको परिचय ई) तामाङ सेलो नाचको परिचय वा ख्याली नाचको परिचय	
	२. रंगमञ्चमा नृत्य प्रदर्शन गर्दा श्रृंगार, विद्युत, ताल, वस्त्र आदिको परिचय क) चर्या शैलीको अ) रंगमञ्चको ज्ञान आ) नवरसको साधारण ज्ञान इ) नृत्यको अरू ललितकलासँग सम्बन्ध ई) रक्त गणेश नृत्यको परिचय उ) कुमारी नृत्यको परिचय ऊ) अन्नपूर्ण नृत्यको परिचय	२४
	३. शास्त्रीय नृत्य क) भरतनाट्य ख) कत्थकक	२७
		७५

(क) सन्दर्भ सामग्री :

१. सिंह, मृगेन्द्रमान : नृत्य (प्रमाणपत्र तथा १० +२) ।

२. बज्राचार्य, बेटी : नृत्यवोध, आशिष प्रकाशन, २०५५ ।

(ख) सहायक सामग्री (सम्बद्ध अंश मात्र) पुस्तक, पत्रपत्रिकाहरू

१. प्रनामको स्मारिका : २०४७, २०५३ ।

२. हाम्रो लोकगीत : रेडियो नेपाल, २०२० ।

३. संगीताञ्जली काठमाडौं : २०३४ ।

४. नेपाली रंगमञ्च : ने.रा.प्र. प्रतिष्ठान २०३७ ।

५. परम्परागत नेपाली नेत्य संगोष्ठी : २०४८ ।

६. मल्लकालीन गँ प्याख : पं.वै. आशाकाजी बज्राचार्य ।

७ र ८. नेपाली नृत्यकार र सहयोगी कलाकार : प्रनय २०४७, २०५३ ।

सि.नं	विषयसूची खण्डहरूको अभ्यास	कक्षा विभाजन
१.	लोकनाचको अभ्यास क) घिन्तामै नाचको ताल, बोल, गीत सहितको अभ्यास ख) चुड्का नाचको ताल, बोल, गीत सहितको अभ्यास ग) टप्पा नाचको ताल, बोल, गीत सहितको अभ्यास घ) तामाङसेलो नाचको ताल, बोल, गीत सहितको अभ्यास वा ङ) गुरु बन्दनाको ताल, बोल, गीत सहितको अभ्यास	२४
२	नेपाली शास्त्रीय नृत्य	२४

	अ) रक्त गेणश नृत्यको गीत, बोल र तालको अभ्यास आ) गुरूबन्दताको नृत्यको गीत, बोल र तालको अभ्यास इ) कुमारी नृत्यको गीत, बोल र तालको अभ्यास ई) अन्नपूर्ण नृत्यको गीत, बोल र तालको अभ्यास उ) पञ्चमुद्रा, नवमुद्रा र जपादिमुद्राहरूको अभ्यास	
३.	शास्त्रीय नृत्य क) भरत नाट्यम् मध्ये अ) संयुक्त हस्त २३ को अभ्यास आ) पाँचै जातिमा सप्ततालको अभ्यास इ) अडाउ नं ७ र ८, ९-१३ अभ्यास ई) तिश्र जातिमा अल्लारियुको अभ्यास अथवा, ख) कत्थक मध्ये अ) ताण्डव तथा लास्यको अभ्यास आ) असंयुक्तको विनियोग र संयुक्तको अभ्यास इ) कविता र चक्रदारको अभ्यास ई) गतनिकासको अभ्यास	२७

सन्दर्भ सामग्री :

१. सिंह, मृगेन्द्रमान : नृत्य (प्रमाणपत्र तथा १०+२)।

२. बज्राचार्य, बेटी : नृत्यबोध, आशिष प्रकाशन, २०५५ ।

सङ्गीत, गायन तथा बादन

कक्षा १२

पूर्णाङ्क : १००

पाठ्यभार : १५० घण्टा

उत्तिर्णाङ्क : ४०

१.परिचय

यो पाठ्यांश सङ्गीत (गायन, बादन) विषय लिई ११ कक्षा उत्तिर्ण गरिसकेका विद्यार्थीहरूलाई दृष्टिगत गरी थप विशिष्टता हासिल गराउन र उच्च तहमा सङ्गीत अध्ययन गर्न चाहे विद्यार्थीहरूको लागि पूर्वाधार तयार पार्ने दृष्टिकोण राखी बनाइएको हो । तसर्थ यसमा प्रारम्भिक तहभन्दा केही माथिका विषयवस्तुहरूलाई समावेश गरिएको छ । जस अनुसार केही विशिष्ट शास्त्रीय पक्ष, अलि कठिन रागहरू, केही लोकगीत तथा पाश्चात्य सङ्गीत शास्त्रका केही अन्य पक्षहरू समावेश गरिएको छ । पाश्चात्य सङ्गीत बाहेक यो पाठ्यांश भातखण्डे स्वरलिपिबाट सिक्नु, सिकाउनु र परीक्षामा यसै पद्धतिबाट लेख्नुपर्नेछ ।

२.साधारण उदेश्य :

यो पाठ्यांश पूरा भएपछि विद्यार्थीहरू निम्नलिखित कुराहरूमा सक्षम हुनेछन् ।

१. शास्त्रीय तथा लोकसङ्गीतसम्बन्धी सामान्य र व्यवहारिक ज्ञान हासिल गर्न ।
२. स्वर, लय, तालसित परिचित हुन ।
३. साधारण गीत सङ्गीत गाउन, बजाउन ।
४. पाश्चात्य सङ्गीत सम्बन्धी साधारण ज्ञान हासिल गर्न ।

३.विशिष्ट उदेश्य :

यो पाठ्यांश पूरा भएपछि विद्यार्थीहरू निम्नलिखित कुराहरूमा सक्षम हुनेछन् ।

१. ७ वटा शुद्ध स्वर तथा ५ वटा विकृतत स्वरहरूसित परिचित भई प्रयोग समेत गर्न ।
२. लय, मात्रा, तालसित परिचित भई समान, दुगुन र चौगुनको लयकारी प्रयोगात्मक रुपमा देखाउन ।
३. सङ्गीत विषयमा प्रयोग हुने पारिभाषिक शब्दहरूलाई आफ्नै शब्दद्धारा वर्णन गर्न र साधारण सिद्धान्तहरूलाई व्याख्या गर्न ।
४. शास्त्रीय सङ्गीत र लोक सङ्गीत सित परिचित भई त्यसको प्रदर्शन गर्न ।
५. भातखण्डे स्वर लिपि लेख्न ।
६. केही नेपाली सङ्गीतज्ञहरू बारे विवेचना गर्न ।
७. वाद्ययन्त्रहरूको प्रकार छुट्याई वर्णन गर्न/गीतको प्रकार वर्णन गर्न ।
८. पाश्चात्य स्वरलिपिका चिन्हहरू र केही अन्य साधारण सिद्धान्तहरूको वर्णन गर्न ।
९. यो पाठ्यांश पूराभएपछि कक्षा ८ सम्मका विद्यार्थीहरूलाई सङ्गीत विषयमा तालिम दिन सक्नेछन्

पाठ्य विषयवस्तु

खण्ड (क) सैद्धान्तिक

पूर्णाङ्क : २५

कक्षाभार : ३५ घण्टा

उर्त्तिणाङ्क : १०

एकाई १ : शास्त्र **कक्षा भार : २१ घण्टा, अङ्कः १**

क) राग र समय : पूर्वराग, उत्तराग, पूर्वाङ्गवादीराग, उत्तराङ्गवादी राग, परमेल प्रवेशक राग, सन्धिप्रकाश राग, रेध शुद्ध वर्ग राग, रेध कोमल वर्ग राग, गनि कोमल वर्ग राग र अध्व दर्शक स्वर ।

ख) जाति र थाट : एक थाट अन्तर्गत नौ प्रकारको जातिको माध्यमबाट ४८४ प्रकारको आरोह अवरोह बनाउने तरिका र त्यस अन्तर्गत राग बनाउने तरिका । व्यंकटमुखीको ७२ थाट, उत्तर भारतीय सङ्गीत पद्धतिको ३२ थाटको व्याख्या तथा प्रचलित १० थाटको आवश्यकता र औचित्य ।

ग) गायन शैलीको प्रकार तथा प्राविधिक शब्दहरूको परिभाषाः ध्रुपद, धमार, ख्याल, टप्पा, ठुमरी, तराना, होरी गजल, भजनको संक्षिप्त परिचय । मीडय, कण, सूत (घसीट), मुर्की, गमक, खट्का, कृन्तन, जमजमाको परिभाषा ।

घ) नेपाली सङ्गीतको संक्षिप्त इतिहास : जीवनी, घटनाक्रम, व्यक्तिहरूको योगदान, स्वदेशी तथा विदेशी सङ्गीतज्ञहरूले सङ्गीतको बिकासको लागि गरेको प्रयास तथा योगदान : उस्ताद गणेशलाल श्रेष्ठ, पं.देवचन्द्र रेग्मी, नरराज ढकाल, रंगराव कादम्वरी, गणेशबहादुर भण्डारी, विष्णुनारायण भातखण्डे, विष्णु दिगम्वर पलुष्कर आदिको संक्षिप्त जीवनी तथा योगदान ।

ङ) वाद्यको प्रकार ।

एकाई २ राग र ताल **अंक : ५**

क) राग परिचय : राग बिहाग, राग भीमपलासी, राग बागेश्वरी, राग आशावरी, राग भैरव, राग जौनपुरीको संक्षिप्त परिचय साथै राग भीमपलासी र राग बागेश्वरीको तुलना ।

ख) माथि उल्लेखित रागहरूलाई भातखण्डे स्वरलिपि अनुसार स्थायी अन्तरा लेख्ने तरिका ।

ग) ताल परिचय : झपताल, रुपकताल, एकतालको परिचय सहित समान, दुगुन, चौगुन लयमा लेख्ने तरिका ।

एकाई ३ लोक संगीत **कक्षाभार : १४ घण्टा** **अंक १०**

क) लोक संगीतको परिभाषा

ख) नेपाली लोकसंगीतबारे विद्धानहरूको भनाई : धर्मराज थापा, सुवि शाह, सत्यमोहन जोशी, कृष्णप्रसाद पराजुली, गोपाल योन्जन ।

ग) लोकगीत परिचय : झ्याउनरे गीत, रोइला गीत, देउडा गीत, असारे गीत, भोजपुरी गीत, मैथिल गीत, संगिनी गीत, टप्पा गीत, आधुनिक गीत तथा राष्ट्रिय गीत ।

घ) नेपाली लोकबाजाको संक्षिप्त इतिहास : पश्चिमा, टुङ्गाना, धिमे, मुर्चुङ्गा, मुरली, च्याभुङ, पिवंचा, ढोलक, पोंगा, झ्यालीको संक्षिप्त परिचय ।

ङ) नेपाली लोबकाजाको संक्षिप्त इतिहास ।

च) नेपाली लोकबाजा अन्तर्गत कुनै ३ वटा ताल र बोलहरू (सोरठीताल, समलाताल, ख्यालीताल, चोताल, झ्याउरे ताल) ।

छ) पाश्चात्य संगीत

ब। पाश्चात्य संगीत पद्धती : Time, Simple, Duple, Triple, Quadruple / Common Time tyf o;sf ;fwf/0f lrGxx¿sf] 1fg / Melody, Harmony, Chord, Consonance, Dissonance, Unison, Enharmonic, Relative Major & Relative Minor को परिभाषा ।

द। स्टाफ स्वरलिपि (लेख्ने तरिका)को संक्षिप्त अध्ययन ।

अ। Interval: C Note बाट प्रत्येक शुद्ध स्वरहरूको दुरी र नामहरू Minor, Diminished / Augmented Chords बनाउने तरिका ।

म। Scale: Chromatic Scale, Major Scale, Natural Minor Scale sf] kl/ro, . Key Signature ;lxt C, G, D, A, E, B, / F Major Scale sf :j/x¿ tyf A,E,B / C dfqfsf Minor Scale का स्वरहरूलाई अंकित गर्ने अभ्यास ।

खण्ड (ख) प्रयोगात्मक

पूर्णाङ्क : ७५

उत्तिर्णाङ्क : ३०

कक्षाभार : ११५ घण्टा

एकाई १ शास्त्रीय सङ्गीत **अंक : ४५ कक्षाभार ७५ घण्टा**

क) राग अभ्यास : राग विहाग, राग भीमपलासी, राग बागेश्वरी, राग आशावरी, राग भैरवी, राग जौनपुरी मध्ये कुनै एक रागमा बडाख्याल, छोटाख्याल (विलम्वीत र मध्यलय), आलाप, तान (४/४ वटा) सहित र कुनै अर्को एक रागमा ध्रुपद, समान, दुगुन सहित गाउने अभ्यास तथा बादन तर्फ उल्लेखित कुनै दुई रागहरूमा मसितखानी र रजाखानीगत वा मध्यलयको गीतलाई आलाप, तोडा (४.४ वटा) झाला सहित बजाउने अभ्यास, उल्लेखित बाँकी ४ रागहरूमा मध्यलयको स्थायी र अन्तरामात्र गाउने वा बजाउने अभ्यास ।

ख) ताल अभ्यास : झपताल,रुपकताल र एकताललाई बोल सहित हातमा समान, दुगुन देखाउने अभ्यास ।

एकाई २ लोक साङ्गीत : **कक्षाभार ४० घण्टा , अंक ३०**

झ्याउरेगीत, रोइलागीत, देउडागीत, असारेगीत, भोजपुरी गीत, मैथिल गीत, टप्पा गीत, संगिनी गीत तथा प्रचलित कुनै २ आधुनिक गीतहरू गाउने तथा बजाउने अभ्यास ।

शिक्षण सम्बन्धी निर्देशन

सङ्गीत विषयमा सैद्धान्तिक पक्षभन्दा प्रयोगात्मक पक्षको बढी महत्व हुन्छ । अतः अंकको तुलनामा प्रयोगात्मक तर्फ विशेष जोड दिनका लागि कक्षा भार सोही अनुसार राखिएको छ । यस तहमा प्रारम्भिक विद्यार्थीहरूलाई स्वर, लयलाई ठीक तरिकाले प्रयोग गर्न जोड दिने र यथासम्भव सैदान्तिक पक्षलाई प्रयोगात्मक रुपमा पनि देखाउने । विद्यार्थीलाई समय समयमा मञ्च प्रदर्शन गर्न ।

शास्त्रीय सङ्गीत सन्दर्भ पुस्तकहरू :

१. आचार्य, श्रीराम, (२०५६), संगीतामृत, काठमाडौँः संगीतामृत प्रकाशन ।
२. उपाध्याय, चन्द्रकुमार, (....) संगीतका सात तारा ।
३. उपाध्यया, होमनाथ, (.....) ताल पुष्पाञ्जली, काठमाडौँ : लेखक स्वयं
४. ओझैया, प्रेमचन्द्र (.....) ताल सरोवर, काठमाडौँः लेखक स्वयं ।
५. गोर्खाली, ज्ञानुराधा, (२०५७), राग आराधना, काठमाडौँ : लेखक स्वयं ।
६. गोपाली, धनबहादुर (२०६१), संगीतसुत्र, काठमडौँ : लेखक स्वयं ।
७. जंगम दपक र बेनी रावल , (२०५९), संगीत सुरभि, भाग २, काठमाडौँ : भृकुटी मसलन्द तथा खाद्य भण्डार ।
८. डंगोल, लक्ष्मीनारायण, (....) सितार चन्द्रिका ।
९. ढकाल, नरराज, (२०४६), शास्त्रीय, गायन, काठमाडौँः ने.रा.प्र.प्र ।
१०. तुलाधर, बुद्धरत्न, (२०३४), संगीत साधन, भाग २, कीर्तिपुरः पाठ्यक्रम विकास केन्द्र
११. दर्नाल, रामशरण, (२०४१), संगीतको विस्तृत अवलोकन, काठमाडौँः ने.रा.प्र.प्र. ।
१२. दर्नाल,..... (२०६१), नेपाली बाजा, काठमाडौँ : रत्न पुस्तक भण्डार ।
१३. पाण्डे, इन्दीरा, शतीशचन्द्र रेग्मी र गोपाल योन्जन (२०३४), संगीताञ्जली, काठमाडौँः श्रीपाण्डे ।
१४. पौड्याल, होमनाथ, (२०१५), नेपाली गान मञ्जरी, भाग १, काठमाडौँ : लेखक स्वयं ।
१५. प्रधान, शकुन्तला, (२०५०), संगीत सोपान, काठमाडौँः खनाल प्रकाशन ।
१६. ....., २०६३, संगीत सोपान भाग १ कठमाडौँ : भुडी प्रकाशन ।
१७. बसन्त (सं) गर्ग लक्ष्मीनारायण, (ई. १९९४), संगीत विशारद, इलाहावादस् हाथरस ।
१८. माथेमा, परशुराम भक्त, (....) संगीत प्रवेशिका ।
१९. शर्मा, कालीप्रसाद, (.....) तबलाबोध, काठमाडौँः ने.रा.प्र.प्र.
२०. शर्मा, भगतशरण, (ई १९६३), ताल प्रकाश, इलाहावाद : हाथरस ।
२१. शर्मा यज्ञराज, (....) स्वर तालको परिचय काठमाडौँ : लेखक स्वयं ।
२२. शम्सेर, लक्ष्मण, (२०३४), संगीत सुवोधिनी, काठमाडौँः ने.रा.प्र.प्र ।
२३. सिंह, विक्रमादित्य, (ई. १९९०), संगीत कौमुदी, भाग १, २ लखनउ : केशर कु. निगम ।
२४. श्रीवास्तव, हरिशचन्द्र, (ई १९७८), राग परिचय, भाग १, २ इलाहावाद, संगीतसदन ।
२५. श्रेष्ठ, तेजबहादुर, (.....) तबलावाद्य विशारद, काठमाडौँ : लेखक स्वयं ।
२६. क्षेत्री, कमल, (२०६२), रागको साँचो, काठमाडौँ : लेखक स्वयं ।

लोकसङ्गीत सन्दर्भ पुस्तकहरू :

१. कन्दङ्ग्वा, काजिमान, (२०२०), नेपाली जन साहित्य, काठमडौँः ने.रा.प्र.प्र. ।
२. कंडेल, रामप्रसाद, (२०६१), नेपाली लोकबाजा, काठमडौँ : नेपाली लोकबाजा सङ्ग्राहलय ।
३. जंगम, दीपक र बेनी रावल (२०५९), संगीत सुरभि, भाग २, काठमाडौँ, भृकुटी पुस्तक तथा मसलन्द भण्डार
४. तिवारी, शोभा, (२०६१), लोक संगीतार्पण, काठमाडौँ : सभ्झा प्रकाशन ।
५. थापा, धर्मराज र हंसपुरे सुवेदी, (२०४१), नेपाली लोकसाहित्यको विवेचना, कीर्तिपुरः पाठ्यक्रम विकास केन्द्र ।
६. दर्नाल, रामशरण, (२०४१) संगीतको विस्तृत अबलोकन, काठमाडौँ : ने.रा.प्र.प्र. ।
७. ..... (२०६१), गायन शैली, काठमाडौँ : साझा प्रकाशन
८. ..... (२०६१), नेपाली बाजा, काठमाडौँ : रत्न पुस्तक भण्डार ।
९. पन्त, कालीभक्त, (२०२८), हाम्रो सांस्कृतिक इतिहास, स्याङ्जाः लेखक स्वयं ।
१०. पराजुली, कृष्णप्रसाद, (२०५७), नेपाली लोकगीतको आलोक, काठमाडौँ : वीणा प्रकाशन ।
११. पाण्डे, इन्दिरा, शीशचन्द्र रेग्मी र गोपाल योञ्जन (२०३४), संगीताञ्जली, काठमाडौँ : श्रीपाण्डे ।
१२. प्रधान, शकुन्तला, (२०६२), संगीत सोपान भाग : २, काठमाडौँः भुँडीपुराण प्रकाशन ।
१३. बन्धु, चूडामणि, (२०५८), नेपाली लोकसाहित्यको विवेचना, काठमाडौँः एकता बुक्स ।
१४. रावल, बेनी, (२०६३), सन्दर्भ लोकगीतका, काठमाण्डौ : भृकुटी पब्लिकेशन्स ।
१५. शाह, सु.बि, (२०३९), मादल, काठमाडौँः साझा प्रकाशन ।
१६. श्रीवास्तव, हरिशचन्द्र, (२०५२), लोकगीतका क्रमिक विकास, इलाहावादः संगीत प्रकाशन ।

Sub Code: 178

Agriculture
Grade XII

Full Marks: 100 (75T+25P)

Course No: - 278 Pass Marks: (Th. 27 + Pr.l 0)

Nature of Course: Theory + Practical Teaching Hours: 150

I. Introduction (Course Description).

This course is designed for the students of Grade XII with agriculture as an optional subject which will help them adopt farming as a business enterprise. Study of the subject provides an understanding of farming operations such as agriculture and sericulture, mushroom production, agriculture extension, crop production, agriculture-engineering, soil science, fruit production, fish production, livestock production, dairy and meat technology. The nature of the course is both theoretical and practical.

II. General Objectives

The general objectives of this course are:

a. to provide knowledge on crops and livestock farming;
b. to make students aware of the present technologies and developments in crop, livestock and tisheries; and
c. to develop skills in adopting agriculture as a profession and generate self employment opportunities.

III. Specific objectives

On completion of the course, the students will be able to:

1. explain the cultivation of various crops such as cereals, pulses, oilseeds, industrial crops, spices, vegetables, fruits etc;
2. state the principles and practices of crop production based on agro- ecological zones;
3. discuss the production of various livestock such as cow, buffalo, goat, poultry, pig, fish etc; and
4. state the principles and practices animal production based on agro-ecological zones.
5. explain the use of dairy and meat technology.

IV. Course Scheme

Units	Title	Teaching Hours
1	Agriculture & Sericulture	13
2	Mushroom production	12
3	Agriculture extension	10

4	Crop Production II	19
5	Agri-engineering II	14
6	Soil Science II	15
7	Fruit Production	19
8	Fish production II	12
9	Livestock production II	26
10	Dairy and meat technology	10
	Total	150

I. Course Contents

Unit-t Agriculture & Sericulture

- Apiculture and sericulture as a livelihood option.
- Biology of exotic and indigenous bees
- Importance of pollinator insects in agriculture.
- Bee flora and pollination mechanism.
- Bee hive management
- Honey production technique
- type of silkworm and importance.
- Cultivation practices of mulberry.

Practical: Apiculture (bee keeping techniques)

Practical: Sericulture (silkwonn rearing techniques)

Unit-2 Mushroom production

- Mushroom production as a livelihood option.
- Spawn production.
- Types of mushroom and their cultivation practices.
- Grading, packaging and marketing.

Practical

Mushroom production practices.

Unit-3 Agriculture Extension:

- Principles and importance.
- Technology transfer
- Communication with farmers
- Institutional network in nepal
- Participatory extension: farmer's field school.

Unit-4 Crop Production II

- Introduction, importance (contribution of pigeon pea in soil fertility improvement; importance of nodules formation in root of leguminous crops)

- Origin, distribution, taxonomy, morphology, recommended variety
- Soils and soils management.
- Agro ecology of the crops.
- Tillage operations.
- Plant nutrients (organic manures, inorganic fertilizers and bio-fertilizers).
- Crop rotations.
- Seed preparation and sowing methods.
- Water management.
- Intercultural operations.
- Harvesting and storage.

Practical

- Relevant practical (as mentioned in crop production T) and tield visits of the following crops:
    a. Pigeon pea;
    b. Rape seed and mustard;
    c. Soybean
    d. Finger millet;
    e. Buckwheat;
    f. Sugarcane.
- Field visits to observe nodules formation on pea plants
    a. Counting nodules/plants and identilication.

Unit-5 Agri-Engineering II

- Use of machine in agriculture.
- Farm tractors and tillage equipments.
- Biogas plants.
- Windmills.
- Importance and use of solar energy.

Unit-6 Soil Science II

- Introduction of soil fertility and plant nutrients.
- Classification of different nutrients (Primary, secondary and trace elements)
- Soil conservation
- Type of soil erosion (wind and water); causes, impact and control measures
- Land degradation and land rehabilitation.

Practical:

- Observation visit of different types of soil erosion and various control structure.

Unit-7 Fruit Production

a. Introduction to fruit production

- Importance
- Relationship to climate and soils.
- Nursery and orchard establishment.
- Propagation of fruit trees.
- Cultural practices.
- Training & pruning.
- Problems of fruit setting.
- Harvesting & marketing. ·

b. Fruit crops production and practices:

i) Tropical and subtropical fruits

Mango	Banana
Guava	Litchi
Papaya	Pineapple
Jack fruit	

ii) Warm temperate fruits

Sweet orange	Mandarin
Lemon and limes	

c) Temperate fruits

Apple	Pear
Peach	Apricot
Persimmon	Strawberry
Walnut	

Practical:

- Layout of orchard and planting
- Propagation methods of fruit trees
- Training and pruning of fruit trees
- Harvesting, handling, grading and storage techniques.

Unit-8 Fish Production II

a. Cold water fish culture

- Principle of trout culture - Cultivable species of trout

b. Rainbow trout culture

- Site suitable for rainbow trout culture
- Rainbow trout fanning and pond types
- Stocking density

- Grading
- Feeding and conservation rates
- Post harvesting and marketing
- Common diseases of rainbow trout and their control
- Economics of rainbow trout production

Practical

Dissection of a typical carp and a rainbow trout to expose

Digestive system Excretory system

Circulatory system Reproductive system.

Demonstration of different parasites, fungi and bacteria occurring to carps and rain bow trout.

Field Visit

Different fish culturing sites, Trout farming sites,

Rice fish culture sites

Unit-9 Livestock Production II

a. Cattle and buffalo production:

- Breeds
- Production system
- Types of sheds
- Care and management of newly born calves.
- Heat detection and optimum time of mating.
- Feed requirement.
- Management practices (castration, Dehorning, Grooming, Dipping/dusting).
- Parasitic diseases and management.
- Infectious diseases and management.

Practical:

- Identification of breeds.
- Observation of different types of sheds

b. Pig Production

- Breeds
- Production system
- Feed requirement and types of feed
- Types of housing
- Care and management of newly born calves
- Care and management of Sows and Boars
- Selection and culling
- Heat detection and optimum time of mating
- Parasitic diseases
- Infectious diseases

Practical:

- Identification of breeds
- Observation of different types of sheds

c. Rabbit farming

- Breeds/Strain for wool and meat production
- Shedding methods
- Heat detection, optimum time of mating and successful mating.
- Sexing, handling technique.
- Feed requirement and types of feed.
- Wool shearing and grading.
- Parasitic and infectious diseases and management.

Practical:

- identification of breeds
- Shedding methods
- Sexing, handling teclmiques
- Wool shearing and grading

Unit-10 Dairy and Meat Technology.

- Composition of milk of cow, buffalo, goat, sheep
- Physical properties of milk of cow, buffalo, goat
- Composition of meat of goat, sheep, buffalo, poultry, pig, and quill
- Factors affecting the composition of milk, meat and their quality
- Pasteurizing action of milk, packing and distribution of milk
- Milk by product (cheese, ghee, ice-cream),
- Meat by- product (sausage)
- Livestock machinery
- Food processing and preservation

Practical

- Pasteurizing action of milk, packing and distribution of milk
- Food technology (Preparing different processed food items)

VI. Teaching Learning Strategies

- Project work
- Group work
- Question- answer
- Field study
- Discussion
- Pair work
- Demonstration.

VII. Instructional Materials

- Multimedia - Maps
-Pictures Charts etc.

VIII. Evaluation Scheme

a) Theory Portion

Total questions to be asked	Required no of answers to be attempted	Nature of questions	Weightage for each
4	3	Descriptive (Long answer questions)	3x12=36
8	6	Short answer questions	6x4=24
15	15	Very Short answer questions	15x1=15
	Total		75 marks

b) Practical Portion

Attendance	5 marks
Sporting/performance(class/field)	5 marks
Practical record	5 marks
Viva-voce	5 marks
Final practical	5 marks
Total	**25 marks**

IX. Reference Books

- Trainers' manuals, MDAP,DOA, (English & Nepali)
- Bardach, J.E., J.H. Ryther and W.O.Maclamey, 1972, Aquaculture, The farming and Husbandary of Fresh Warteh and Marine Organisms. Science ed, Hohn
- Wiley & Sons, N.Y . Chichester, Brisbane, Toronto, 868 PP.
- Chalaabarty, N.M. l 994, Diseases of Cultivable Freshwater Fishes and Their Contro. Published by International books and periodicals supply Services, Nishant Junj, Pitampnra, Delhi. 149pp.
- Shephard, Jonathan & Niall Bromage 1988. Intensive Fish fanning. Black well Science, London.
- Leitriz, Earl, 1963, Trout and salmon Culture, state of California, Dept. of Fish and Game. fish Bnlletin No. I 07
- Huet, Marcel, 1975. Text Books of fish culture, Fishing news (Book) Ltd.; Rosemount Avenue, West By fleet, Surrey, England .
- Martyshev, F.G. 1983 Pond Fisheries, Amerind Publishing Co. Pvt. Ltd. New Delhi .454pp.

- Sedgwick, Stephen Drummond .1985. Trout Farming Handbook Fourth Ed. Fishing News Books Ltd. I Long Garden walk. Farnham Surrey, England.
- Frehwater Fish Seed Production Manual.
- Natural Water Fisheries Development Project NARC and JICA.
- Rajbhandari, B P & GD Bhatt. 2008. Food crops: agro-ecology and agrotechniques. HI CAST Publ., Kathmandu, 266 PP.
- Rajbhandari, B P & GD Bhatta. 2008, Agro - ecology and agro - techniques of Industrial crops. HI CAST Publ. Kathmandu, 160 pp.
- Rajbhandari, B P. 1988. Grain Legumes of Nepal, Kumar Chhapakhana, Chitwan. 280 pp.
- पाण्डे, शम्भु बहादुर, दलराम प्रधान र केशवराज केशरी, (२०४३), पशु पालन संक्षिप्त परिचय, केन्द्रिय तालिम तथा प्रसार केन्द्र, पशु विकास तथा पशु स्वास्थय विभाग ।
- प्रधान, सुवर्णमान (२०४६) बाखा पालन, केन्द्रिय तालिम तथा प्रसार केन्द्र, पशु विकास तथा स्वास्थ्य केन्द्र ।
- पौडेल, श्याम प्रसाद (२०४७), गाई पालन, के.ता. तथा प्रसार केन्द्र, प.वि.तथा प. स्वास्थय केन्द्र ।
- श्रेष्ठ, नारायण प्रसाद, ब. चेम्जोङ र विदुर पाखिन (२०४६), खरायो पालन, पाखीवास कृषि केन्द्र धनकुटा ।
- न्यौपाने, श्रीराम, इन्द्रकमल अर्याल (१९९६), अंगोरा खरायो पालनका विविध पक्षहरू पाखीवास कृषि केन्द्र धनकुटा कार्यपत्र ।
- श्रेष्ठ, सुवर्ण लाल (२०४३), कृत्रिम गर्भाधान लाइभस्टक वर्ष २ अंक १ ।
- जि.सी. बनर्जी (१९८२), ए टेक्स्ट बुक अफ एनिमल हसवेन्ड्री ।
- फिसरीज म्यानूअल, मत्स्य विकास महाशाखा, बालाजु काठमाडौं ।
- पोखरीमा माछा पालन, कृत्रिम तथा प्राकृतिक जलाशय मत्स्य शाखा, केन्द्रीय मत्स्य भवन, बालाजु काठमाडौं ।
- कृत्रिम गर्भाधान सम्बन्धी व्यवहारिक पुस्तिका (२०४५), श्री पशु सेवा विभाग, केन्द्रीय तालिम तथा प्रसार केन्द्र, हरिहर भवन ।

HOME SCIENCE
Grade: XII

Full marks: 100 (80T+ 20P)
Teaching hours: 150

I. Introduction

The Home Science course designed for the Grade XII is an extension of the course taught at XI level. This course is offered to the Grade XII students to raise the level of understanding of both principles and practices of home science subjects for improving the quality of life through education for living. This course consists of four sections each carrying 25 marks.

A. Food and nutrition
B. Home management
C. Child development
D. Clothing and textiles.

The knowledge acquired by students under these sections at Grade XI will be updated and at the same time attempts will be made to enhance their knowledge and practical skills in major areas of the course.

II. Ganeral Objectives

The general objectives of this course are:

a) to impart knowledge and skills on the four major areas of home science (food and nutrition, home management, child development, and clothing and textiles);
b) to develop knowledge on nutritional deficiency diseases, meal planning, food microbiology, nutritional effect on cooking planning family resources, common ailments and play in childhood, textile classification and weaving and
c) to impart functional skills in food preparation, growing vegetables compost making, running daycare centers and garment construction.

III. Specific Objectives

Upon completion of the course, the students will be able to:

1. discuss common nutritional deficiency diseases and identify the diet rich protein, calorie, vitamin A, D, iron and iodine;
2. explain the importance of balanced diet and plan meal for children (Preschool age);
3. understand the role of microorganism in food productions, food spoilage and food poisoning;
4. to prevent loss of food nutrients during storing, processing and
5. plan and manage family budget and resources properly;
6. explain women's role in the utilization of leisure time for productive work;
7. describe the various arrangements for the furnishing of the house;
8. understand the basic principles of household physics and their application;

9. understand the need and importance of play in childhood;
10. plan and participate in day care center's activities;
11. classify the man made textile fibers and describe their process of making;
12. explain types of weaves and their weaving process; and
13. construct garments specified in the course.

IV. Course Contents

A. Food and Nutrition

Full marks: 25
Theory: 20
Practical: 5
Teaching hours: 39

1. Nutrition deficiency diseases — 3 Teaching hrs

Causes, symptoms and dietary treatment of

- I.kwashiorkor (runche)
- Marshmus (sulgeneas)
- Night Blindness (ratandho)
- Anemia (Rialto alpaca)
- Goiter (Rakta Alpata)
- Ricket

2. Meal Planning — 10 Teaching hrs

- Balanced diet

i. Meaning, importance, and characteristics of balanced diet
ii. Recommended dietary allowance for various age groups,
iii. Balanced diet for children up to 5 years of age.

- Food selection, purchase and storage of foods

i. characteristics of fresh and stale vegetables, fruits, meat, fish, egg, milk, curd etc.
ii. Types of foods:
Perishable, semiperishable and their proper storage.

- Food Purchasing

Points to be kept in mind while purchasing the above mentioned foods:

(food budget, family size, 'space for storage cost, seasonal or off seasonal food, condition of the food containers,, refrigerator, labeling for processed foods etc).

3. Introduction to basic food microbiology — 7 teaching hrs

- Introduction of food microbiology.
- Types of microorganisms- fungi, bacteria, virus, Rickettsea,
- and protozoa,
- useful and harmful microorganisms.

- Role of micro organisms in
  i. Bread making
  ii. Butter, cheese and curd
  iii. Pickles and fermented vegetables
- Food spoilage and its causes
  i. spoilage of fresh foods,.
  ii. spoilage of home preserved foods,
  iii. spoilage of commercially canned foods.
- Types of food poisoning and their causes.
  i. staphylococcal food poisoning, ii. Botulism

4. Effect of cooking on Nutrients 3 teaching hrs

- Effect of cooking on carbohydrate, fat, protein, vitamin, (Thiamin, niacin vitamin 'A', vitamin 'C') and iron.
- Loss of nutrients during soaking in water, over cooking, throwing away cooking water.
- Market survey to collect data on cost and availability of cereals, pulses, vegetables, fruits, sugar, oil, fats , butter, bakery products, egg, meat, fish, poultry, and iast processed and preserved food .
- Report writing on market survey.

5. Practical 15 hrs

- Demonstration on kind of chulas-their use, care and safety measures
- Demonstration on modern kitchen accessories their use, care and safety measures.
  i. Refrigerator, ii. Pressure cooker iii. Rice cooker iv. mincer
  v. blender vi. grinder vii. water filter.
- cleanness of kitchen, dish washing and arrangement of kitchen

1. Food preparation

- i. Cereals- fried-rice, (Chinese style) Chowmin (Chinese style chatamari with egg or bara.
  ii. Pulse's-Kwati
  iii. Egg-milk omelet and water poach egg (scramble egg) iv. Meat grilled, stewed meat v. Observe the color, test and flavor during and after cooking
- Food preparation for enhancing the nutritive value.

i. Plain khichadi (from cereal and pulse combination)
ii. Preparation of jam from locally available fruits.

B. Home Managemet **Full marks: 25**
Theory: 20
Practical: 5
Teaching hours: 35

1. Planning family budget **4 teaching hours**

- Learning of budget
- Importance of budget
- Steps in making the budget for a family.
- Factors affecting the budget
- Budgeted amounts under various headings (items)

2. Management of family resources **6 teaching hours**

- Types of resources human and nonhuman resources
- Division of work. among the family
- Simplification of house-hold work

3. Household Physics **10 teaching hours**

- Importance of house hold physics .
- Heat-heat and temperature reading of temperature in thermometer (celsius and furenhiet) head, Application for kitchen pot and pans.
- Principles of working, electric Refrigerator, toastpr. heater, iron, and kettle (electric) etc. use and care of above appliances.
- Electricity-

i. Insulators and conductors.
ii. Simple wiring, plug, fuse, tester, and screwdriver,
iii. Household electric safety connections.

- Light:

j. Reflection and Refraction
i. Illumination and intensity of illumination,
ii. Lighting of house purposes general lighting and local lighting.

4. Practical **10 teaching hours**

Planning a kitchen garden, garden tools, preparation of soil, making and using of compost, growing vegetables, controlling pests and insects.

5. Furnishing the house **5 Teaching hrs**

- Importance of furnishing the house.
- Primary, Secondary and intermediate colors, (colourwheel)
- Introduction flower arrangement

i. Steps in flower arrangement,
ii. Mass arrangement
iii. Continuation arrangement of flower.

- Select and arrangement of furniture for activity

C. Child Development

Full marks: 25
Theory: 20
Practical: 5
Teaching hours: 31

1. Common ailments of childhood-their prevention and cure

5 teaching hours

- Diarrhoea-like hydration use of oral dehydration solution- (ORS)
- Measles- Symptoms and care
- Bronchitis and pneumonia symptoms and care

2. Baby care and childhood problems and their treatment

5 teaching hours

- Common childhood problems such as bed wetting teething, toilet training and thumb sucking etc iii. . Lem
- Method to prevent and control these problems
- Guidance to parents about handling these problems

3. Prevention of accidents in household and out side 6 teaching hrs

- Home burn
- Falling-cutting and burning
- Drawing and suffocating
- Food poisoning
- Simple methods of providing safety in house and out side
- First aid.

4. Play in childhood 15 teaching hours

- Need and importance of play during childhood
- Learning through play.
- Physical, motor, social and intellectual development through play
- Selection of toys of child, feature, color, materials
- Preparation of soft toys in day care center

i. Helping the facilitators or teacher in preparation of activities in day care center
ii. Playing with children and participation in the activities such as song, story, role play etc.

D. Clothing and Textile

Full marks: 25
Theory: 20
Practical: 5
Teaching hours: 31

1. Introduction to textile fabric and their general classification

4 teaching hours

- Man made fabrics from material source
- Man made fabrics from chemicals

2. Definition, meaning types of weaving **6 Teaching hrs**

- Plain weave

i. Twill weave

ii. Satin weave

- Crepe weave
  i. Double weave
  ii. Pile weave
  iii. Lena weave
  iv. Jacquard weave
  v. Lappet and suval weave.

3. Body measurement **6 teaching hours**

- Body measurement
- Principles of drafting
- Taking measurement of different parts of body.

4. Sewing Machine **4 teaching hours**

- Different part of sewing machine and their functions
- Care and maintenance of sewing machine

5. Garment Construction **11 teaching hours**

- Pattern making, layout and cutting and stitching of:
  i. Simple blouse
  ii. Half Pant
  iii. Bush Shirt

VI. Reference books:

१. शर्मा, इन्दिरा, पौष्टिक आहार तथा शिशु विकास, एम.के. पब्लिशर्श, डिस्ट्रिव्युटर्स, भोटाहिटी ।

२. मानन्धर, लक्ष्मीकेशरी, मानव शरीर तथा सूक्ष्म जीव, एजुकेशनल पब्लिर्सस, काठमाडौँ ।

३. उप्रेती, निर्मला र उपाध्याय, रेणुका, गृह प्रबन्ध तथा वस्त्र विज्ञान खण्ड क र ख, एजुकेशनल पब्लिशर्श, काठमाडौँ ।

४. Ray. S.C & Choudhary, Intermediate Phusics (Vol I & II)

५. शर्मा, डा. श्रीमती इन्दिरा र उप्रेती, निर्मला, पौष्टिक आहार तथा शिशु विकास, एम.के पब्लिशर्श, डिस्ट्रिव्युटर्स, भोटाहिटी ।

COMPUTER SCIENCE
GRADE: XII

I. Introduction:

Information Technology has become a part of contemporruy society and as a potential tool in the socio-economic development of country. As Infonnation technology manpower is the backbone for the rapid development of ICT sector in the country, government of Nepal has accordingly identified IT as a priority sector. Keeping in view the importance of computer technology in general and indispensability of its knowledge and skill to the society in general and to the students of higher secondary level in particular, the course seeks to introduce computer science to acquaint the learner with the basic skills of computer literacy.

II. General Objective:

The general objectives of its course are to:

1. help establish a strong foundation for the development of internationally competent Human Resources in the field of Information Communication and Technology;
2. help decrease the Digital Divide; and i
3. fulfill the middle level ICT Human Resources.

III. Specific Objective:

After completing this course, the student will be able to:

1. state the fundamental principle of computer system mechanism and information technology;
2. identify computer recourse for any specific purpose PC based application in the real life situations;
3. solve the office automation related system problems, general networking problems, and web site design;
4. provide computing knowledge and skill to individuals or organization;
5. engage in higher study of computer science and information technological course in the country or aboard;
6. provide the services as instructor of computer sciences course in schools or institutions;
7. discuss programming tool technique and concept about database and C programming;
8. discuss the state-of-art information technology and works to change agents for spreading ICT culture in their society; and
9. encourage the students to visit the hardware and software industries, e-communities centers.

IV. Course Contents:

Unit 1: System Development Concept

1.1. Introduction: System, Information System

1.2.Types ofinfonnation System
1.3.System Analyst - roles, responsibilities and characteristics
1.4.System development Life Cycle (SDLC)
1.5.Importance and the necessity of SDLC
1.6.System Development Models: Waterfall, Prototype, S
1.7 System Development Phase Project Wm·k on D
- 1.7.1. System Study
- 1.7.2. System Analysis Feasibility Analysis
- 1.7.3. Feasibility Study: Technical, Economical, Operational
- 1.7.4. System Design
- 1.7.5. System Development
- 1.7.6. System Testing
- 1.7.7. Implementation
- 1.7.8. Maintenance and Reviews

1.8 Concept of System Design Tools (Context Diagram, DFD, E- R Diagram System Flow Chart, Decision Table, Decision Tree, Use Case, UML)
1.9 Case Study

Unit 2: Database

2.2.1 Concept of Database

2.1. Introduction: Data, Information, Database and DBMS
2.2. Objectives of DBMS
2.3. Database Model: Relational Model ,Network Model, Hierarchical Model Entity Relational Data Model
2.4. Concept of Normalization
2.5. Types of Normalization 1NF, 2NF, 3NF
2.6. Structured Query Language
2.7. Centralized Vs. Distributed Database
2.8. Data Security

2.2 Design Database using DBMS Software

2.2.1 Create a Database
2.2.2 Create Tables and Fields and its properties
2.2.3 Create a Relational Databases
2.2.4 Create and Run Queries
2.2.5 Working with Forms
2.2.6 Generate Reports
2.2.7 Formatting Forms and Reports

2.3 Project Work on DBMS Software

Unit 3: Communication and Networking

3.1. Introduction: Detinition, Purpose of networking
3.2. Analog and Digital Signal, Modulation(AM, FM, PM)
3.3. Direction of communication flow(Simplex, Halfduplex,)
3.4. Types of Network: Peer-to-peer and Client/Servev, LAN, MAN and WAN
3.5. LAN Topologies :Bus, Star, Ring, Tree, Mesh Topologies (Its detinition, structure,advantages & disadvantages)
3.6. Transmission Media: Bound Media (Coaxial Cable, Twisted Pair cable and Optical Fiber Cable- its description, structure, advantages and disadvantages), Unbound Media (Satellite, Wireless Media, Microwave Transmission)
3.7. Network Connecting Device: Modem, NTC, Switch/Hub, Router, Gateway, Repeater, Bluetooth, IR, WiFi
3.8. OSI Reference Model- Layer wise use and function
3.9. Communication Protocol: TCP/IP, SMTP, POP3, FTP, HTTPs, Telnet protocol
3.10. Demonstration of Communication Media and Connecting Devices

Unit 4: Programming in C

4.1 Introduction:
4.1.1. Overview, History, Features, Advantages and Disadvantages of C Language
4.1.2. Structure of C program
4.1.3. Compiling Process
4.1.4. C Preprocessor and Header Files
4.2 Fundamentals of C
4.2.1 Character Set used in C
4.2.2 Use of Comments
4.2.3. Identifiers and Keywords and Tokens
4.2.4 Data Types in C
4.2.5. Constants and Variables
4.2.6. Type of Specifier
4.2.7 Statements- Simple and Compound Statements
4.3. Operators and Expressions
4.3.1. Operators : Precedence & Associatively
4.3.2. Expressions
4.3.3. Type Casting and Conversions
4.3.4. Introduction to Library Functions
4.4. Input/Output (I/O) Functions
4.5. Control Structures
4.5.1. Decisions (if, if- else, else if, switch, ?; operator)
4.5.2. Looping (while, do while, for)
4.6. Array and String

4.6.1. Detinition of array and string
4.6.2. Types of Array- One-Dimensional and Two-Dimensional(definition, declaration, and initialization.)
4.6.3. String Function : strlen(), streat(), stremp(), Strrev(), strepy(), strlwr() strupr()
4.7. Functions
4.7.1. Concept of Function, function definition, function
4.7.2. Return and Void statements of a function
4.7.3. Accessing a Function - Function Call(by value, by reference)
4.7.4. Concept of Recursion
4.8. Structures and Unions
4.8.1. Definition and Difference between Structure and Union
4.8.2. Structure: Declaration, Initialization and Size of Structure
4.9. Pointers
4.9.1. Definition of Pointer
4.9.2. Address(&) and indirection(*) operator
4.9.3. Pointer Expression and Assignment
4.10. Working with Files
4.11. Concept of Data File
4.12. Sequential ad Random File
4.13 Opening, Reading, Writing and Appending on/from Data File

Unit 5: Object-Oriented Programming (OOP)

5.1 Concept of OOP
5.2 Features of OOP: Class, Object, Polymorphism and Inheritance
5.3 Application ofOOP
5.4 Difference between OOP and Structured Programming Language

Unit 6: Information Communication Technology and Cyber Law

6. l Social Impact of the ICT
6.2 Digital Divide
6.3 Computer Ethics
6.4 Intellectual Properties Right
6.5 Privacy, Anonymity
6.6 Computer Crime
6.7 Concept of Cyber Law
6.8 Area of Cyber Law
6.9 Cyber Law in Nepal
6.10 IT Policy in Nepal

Unit 7: Multimedia

7.1 Introduction to Multimedia
7.2 Component of Multimedia: Text, Graphics, Audio, Video and Animation
7.3 Application ofMultimedia

Unit 8: Artificial Intelligence

8.1 Concept of AI

8.2 Component of AI
8.3. Uses of AI
8.4. Ethical Aspect of AT

Unit 9: Contemporary Technology

9.1 e- Business
9.2 e-Leaming
9.3 e-Governances
9.4 e-Medicine
9.5 Virtual Reality
9.6 Robotics

Unit 10: Final Proiect Work

127

10.1. Project Synopsis of the Project
10.2. Project Development using C Programming
10.3. Project Report
(Project should be assigned to individual students.)

V. Instructional Materials:

- To be guided by Teaching Manual

VI. Instructional Techniques:

- To be guided by Teaching Manual

VII. Evaluation Schemes

a) Theory Evaluation:

- Short Questions
- Long Questions
- Short Notes

Theory Questions are guided by marks distribution and model questions.

Practical Evaluation:

S.No	Unit	Topics	No of Exercise	Mini Projects Evaluation	Remarks
1	2.2	Database management System	10	10	Practical Marks Evaluated By: External Examiner:10 Internal Examiner:15 Based on Mini Project, Lab Exercise and Final Project
2	3.10	Networking	2	-	
3	4	C Programming Language	30	15	
4	10	Final Project			

Lab exercises are guided by marks distribution and Teaching Manual.

VIII. Marks and hours distribution

Units	Marks Distribution		Number of Hours	
	Theory	Practical	Theory	Practical
1.	10		15	
2.	15	10	15	15
3.	10		15	3
4.	25	15	30	30
5.	3		6	
6.	3		6	
7.	3		4	
8.	2		3	
9.	4		8	
10.				
Total	**75**	**25**	**102**	**48**

IX. Reference books:

- Shrestha, Prachandra Ram et.al., Computer Science-XII, Asmita Books Publication, ktm
- Adhikari, Deepak Kumar et.al, Computer Science XII, Asia Publication Pvt. Ltd.
- Gurung, Juddha Bahadur et.al., Computer Science-XII, Bhundipuran Prakashan, Ktm
- Balaguruswamy, E. (2000), ***Programming in ANSI C, Second Edition***, Tata McGraw Hill Publishing Company.
- Gottfried, B.S. (200 1), ***Schaum's Outline Series for Programming with C, Second Edition,*** Tata McGraw Hill Publishing Company.
- Yashavant, P. Kanetkar (2008), ***Let Us C E/D,*** BPB Publications.
- URL: http://en.wikipedia.org/

Code: .....

CHEMISTRY EDUCATION
Grade: XII

Full Marks: 75
Teaching hours: 150

I. Introduction

Chemistry is concerned with the study of physical and chemical characteristics of substances, the nature of matter and chemical reactions. Chemistry, thus, is a powerful tool for uncovering and extending our understanding of various natural phenomena. The power resides in the combination of concepts and experiments involving careful observation and quantitative measurements under controlled conditions. The resulting concepts suggest further experiments and investigations which may cause a modification of the existing concepts leading to a creativity of though. This creativity involves the recognition of problem; formulation of ideas in solving the problem and ultimately refinement of the original ideas. The present curriculum aims to foster this uniqueness among students by enabling them to study both theoretical and practical aspects of chemistry.

The course is intended to consolidate the learning in chemistry achieved in the secondary school and make the student capable of teaching chemistry to lower secondary level students in schools. Furthermore, it intends to provide a body of knowledge and skills appropriate both for those students continuing further studies in chemistry and the students not studying the subject beyond this stage. The course seeks to strike a balance between useful facts, concepts and theories hich will facilitate understanding of the properties of substances, reactions among them and chemical processes. Emphasis is placed to stimulate, create and sustain students' interest in chemistry.

Chemistry being an experimental science, laboratory work is an essential component of its syllabus. The course intends to make the students aware of the importance of scientific method for accurate experimental work and also intends to develop the abilities to interpret, organize and evaluate data in order to make appropriate decisions and solve problems.

II. General Objectives

After completion of this course, the students will be able to:

a. apply appropriate chemical principles, concepts, theories, definitions, laws, models and patterns to interpret, draw conclusion, make generalization, predictions;
b. select appropriate facts to illustrate a given principle, concept, theory, model and pattern;
c. select and organize data and perform chemical calculations in which guidance on the method is not supplied;
d. state and apply fundamental facts and principles of chemistry dealing with the nature and properties of matter, preparation and the physical and chemical

properties of chemical substance; changes that occur in chemical reactions and important to industrial processes;

e. familiarize with the mineral resources of Nepal; and
f. appreciate the scientific, social, economic, environmental and technological contributions and applications of chemistry.

III. Specific Objectives

After studying the course, the student shall be able to:

1. identify and describe important properties of matter;
2. draw and describe the structure of atoms, arrange them into molecules and compounds;
3. explain the behaviour of gases and derive related equations;
4. classify the different kinds of matter;
5. write down the chemical equation and interpreted electronic oxidations and reductions reaction;
6. describe the properties of Oxygen, Hydrogen, Carbon dioxide and Nitrogen;
7. write down electronic configuration of atoms;
8. describe the general preparation and properties of some common nonmetallic elements and their compounds;
9. describe general metallurgy and properties of some common metals and their compounds;
10. explain general concept and properties of acids, bases and salts;
11. describe the general concept of hydrocarbons and its derivatives; and
12. illustrate the applications chemistry in daily life.

COURSE UNITS, TITLES, AND CONTENTS

Unit-I : Language of Chemistry **Teaching hours: 08**

- Atoms, molecules, elements and compounds
- Symbols, valency and formula
- Chemical equation, types, significances and limitations
- Balancing the chemical equation (hit and trial, partial equation method)

Unit-II : States of Matter **Teaching Hours: 22**

- Three states of matter
- Basic concepts of Kinetic theory of gas
- Boyle's Law
- Charles' Law, Kelvin scale of temperature
- Universal gas constant, Equation of state
- Dalton's law of partial pressure
- Graham's law of diffusion

- Deviation from ideal behaviour
- Laws of Stoichiometry
- Avogadro's Hypothesis
- Relation between Molecular weight and vapour density
- Properties of solid
- Simple chemical calculation

Unit-III : Atomic Structure and Valency Teaching hours:12

- Dalton's atomic theory
- Rutherford's atomic model
- Bohr's postulates
- Aufbau principle, electronic configuration of atoms
- Electronic theory of valency
- Concept of electrovalency, covalency and co-ordinate covalency with examples
- Basic principle of electrolysis
- Faradays Laws of Electrolysis

Unit-IV : Periodic Classification and Chemical Equilibrium

Teaching Hours: 08

- Mendeleef's Periodic Law
- Modern Periodic Law
- Anomalies of Periodic Table
- Chemical Equilibrium
- Equilibrium consta.lt
- Le Chatelers' Principle

Unit-V : Acids, Bases and Salts, and oxidation reduction

Teaching hours:15

- Arrhenius, Bronsted-Lworry and Lewis concepts of acids, bases with suitable examples
- oxidation and reduction
- Electronic interpretation of oxidation and reduction reaction

Unit-VI : Equivalent Weight, Acidimetry, Alkalimetry and pH

Teaching hours:05

- Definition of Equivalent weight
- Equivalent weight of acid, base and salt
- Determination of equivalent weight by hydrogen displacement method
- Acidimetry and alkalimetry
- Simple acid, base titration
- Concept of pH

Unit-VII : Chemistry of Non-metals **Teaching hours: 20**

- General preparation and properties of Halogens and its compounds (HCl, HBr and Hl)
- General preparation and properties of compounds of Nitrogen (HNO_3 and NH_3)
- General preparation and properties of compounds of Sulphur (H_2S, H_2SO_4, and SO_2)
- Manufacture of NH_3 and H_2SO4

Unit-VIII : Chemistry of Metals **Teaching hours: 15**

- Introduction to metallurgy
- Mineral resources of Nepal
- Important processes in metallurgy (concentration, calcination, roasting, smelting and refining)
- Extraction of the following metals from their important ores and study of their physical and chemical properties and uses:
    a. Iron
    b. Sodium
- Preparation, properties and uses of the following compounds:
    a. Green vitriol
    b. Blue vitriol
    c. White vitriol
    d. Sodium Carbonate

Unit-IX : Carbon and its compounds **Teaching hours:30**

- Definition classification and uses of organic compounds
- Empirical and molecular formulae
- Qualitative analysis of organic compounds (detection of N,X and S)
- Functional group and IUPAC Nomenclature
- Orbital, hybridization and bonding
- Introduction to aliphatic and aromatic hydrocarbons
- General preparation and properties of Alkane, Alkene and Alkyne, aldehyde, ketone, carboxylic acid and chloroform.
- Lab preparation and properties of the following compounds:
    a. Methane
    b. Ethane
    c. Ethyl alcohol
    d. Phenol
    e. Nitrobenzene
    f. Aniline
    g. Benzoic acid

Unit-X: Uses of chemistry in daily life **Teaching hours:15**

- Structure uses and abuses of DDT, BHC
- Structures and uses of simple drugs [Analgeics and Antipyritics(aspirine and phenacetin)] Antibiotics(chloromycitin and penicillin)
- Polymers : synthetic polymers(nylon 66, dacron) and their uses
- Fertilizers : NPK fertilizers

a. Nitrogenous fertilizer(urea, ammonium sulphate)
b. Phosphorous fertilizer(supper-phosp'hate of lime)
c. Potassium fertilizer(potassium- nitrate, sulphate and chloride)

Reference books:

1. Sthapit, Moti Kaji and Pradhananga, Raja Ram, Foundations of Chemistry (Vol. I, II and III)- Taleju Publication, Kathmandu.
2. Gewali, Mohan Bikram and Wagley, Pradyumna, Principles of Chemistry (Second Edition) -Buddha Academic Publisher, Kathmandu 2006.
3. Wagley, Pradyumna, Comprehensive Chemistry (Part 2) et.al., Kala Books Center, Bagbazar, Kathmandu, 2006.
4. Mitra, Ladli Mohan, A Text book of Inorganic Chemistry -Ghose and Company, Calcutta.
5. Bahl, B.S., Elementary Organic Chemistry -S. Chand and Company, New Delhi.
6. Sthapit, Moti Kaji and Pradhananga, Raja. Ram, Elementary Chemical Calculations
7. Dhawan, S.N., Kapil, p,·N. and Khetarpal, S.C.; Pradeep's New Course Chemistry - Pradeep Publications, Jalandhar, India.

CHEMISTRY EDUCATION
PRACTICAL

Full Marks : 25

Teaching hours: 2periods/week

This list of practical activities for Grade XII (science education) includes those experiments which are to be demonstrated and those which the students themselves are to do. The two categories have not however been separated.

Objectives:

After completing the practical course students will have skill in:

1. setting the apparatus for gas preparations;
2. estimating the dissolved and undissolved substances in water by weighing method;
3. performing acid and base titration and prepare standard solution;
4. detecting acid and basic radicals of salts by dry and wet ways;
5. preparing saturated solution of blue vitriol at lab temperature and to recover the pure crystals of the given salt;
6. making accurate observations and measurements, being aware of possible sources of error; and
7. recording accurately and clearly the results of experiments; draw conclusion and make generalization from experiments.

List of activities /experiments:

Simple lab techniques.

1. To set up an apparatus and prepare H_2, O_2, CO_2 and NH_3 gases and study their properties;
2. To prepare a sample of fairly pure water from an impure sample and fresh for impurities of water;
3. To prepare a saturated solution of blue vitriol at lab temperature and to recover pure crystals of the salt;
4. To obtain sodium chloride by the neutralization of (a) bench hydrochloric acid with bench sodium hydroxide (b) sodium carbonate with hydrochloric acid;
5. To prepare the standard solution of sodium carbonate;
6. To standardize the given sulphuric acid with the help of the standard alkali by titration method;
7. To determine the strength of the given sample of sulphuric acid (bench) in terms of normality, grams per liter with the help of a standard solution of sodium carbonate;
8. To recover calcium carbonate from the given mixture of calcium carbonate and magnesium carbonate;
9. To separate the volatile component from the given mixture of a volatile and a non-volatile solid;

10. To detect the acid and basic radicals by dry wet way method (Cl, SO_4, NO_3 , CO_3, Ag^+, CU^{++} Cd^{++}, Al^{+++}, Fe^{++}, Cr^{+++}, Zn^{++}, Mn^{++}, Co^{++}, Ca^{++}, Ba^{++}, Mg^{++}, Na^+, NH_4^+);
11. To detect the foreign elements present in a given organic compound; and
12. To identify the functional group present in a given organic compound.

Reference books:

1. Elementary Practical Chemistry - Moti Kaji Sthapit, Taleju Prakashan, Kathmandu, 2005.
2. Elementary Qualitative Analysis - Moti Kaji Sthapit and Chitta Bahadur Tuladhar, Taleju Prakashan, Kathmandu, 2005.
3. A Hand Book of Practical Chemistry- P.M. Singh and K.K. Baidya.

Teaching Instructions : The following will be the teaching instructions regarding the prescribed course contents of all above course units:
Lecture, Demonstration, Discussion, Experiments, Question-answer, Observation, Problem solving, Project Work, Inquiry and Field trip method

Teaching/Instructional Materials: Teaching materials could be either of the following or in combination or more than the mentioned ones for all above course units.
Visual aids, Chart, Black board/White board, Pictures, Models, LCD, Power point, OHP, Laboratory equipments, Chemicals

Evaluation Scheme

Out of the total coverage, theory portion will cover 75% and rest 25% will be covered by practical.

In theory portion, questions will be of three groups

Long questions: Each carrying 70 marks 2 to be attempted out of 4 choices. *20*

Short questions: Each carrying 5 marks 5 to be attempted out of 7 choices. *25*

Very short questions: Each carrying 2 marks 75 to be attempted out of 20 choices. *30*

Total ***75***

Theory 75

Unit	Course	Very Short (2)*15		Short (5)*5		Long (10)*2	
		To be attempted	choices	To be attempted	Choices	To be attempted	Choices
I	Language of Chemistry		1		1		1
II	State of matter		3				
III	Atomic structure and valency		2				
IV	Periodic classification and chemical equilibrium		1				
V	Acids, bases and		2				

	salts and oxidation and reduction	15		5	2	2	1
VI	Equivalent weight, acidimetry and alkalimetry		1				
VII	Chemistry of non-metals		2		2		1
VIII	Chemistry of metals		2				
IX	Carbon and its compounds		4		1		
X	Use of chemistry in daily life		2		1		1
	Total	15	20	5	7	2	4

Practical Marks

1 . Experiment (Theory 2, Obs. 4, Results 4)- 10

2. Activity (School curriculum) improvision, item preparation- 8

3. Oral /Viva- 3

4. Note book - 4

HEALTH AND PHYSICAL EDUCATION
Grade: XII

Full marks: 100 (50T +50P)
Teaching hours: 150

I. Introduction

Health has become an increasing concern to individual and community. In order to maintain good h'ealth people should get opportunities to understand if the health and related ·factors and to make themselves well informed on the ways to acquire healthier living including favourable changes in health behaviour. This course's designed to help individuals become more informed about the family and national health conditions and assure individual responsibility to take necessary actions for improvement in one's own and community health status. For this purpose individuals need to know major health problems and programs of the country. Since health education is a vital process of bringing favourable changes in health behaviour, the responsible citizens should know the self-educating and community education techniques so that they can successfully participate in the health behavioral change process, the ultimate purpose of which is to assist in achieving a healthier living for all. Participation in games and sports is also equally important to achieve good health. It is also observed that participation without proper guidance results malfunctioning and lop-sided development of the body. Students should, therefore, be provided free activities under the supervision of concerned teacher, whenever health is taken as a subject for discussion, its physical, mental, emotional and social aspects cannot be ignored. Only way to develop all aspects of body is physical activities and games. This course incorporates all these theoretical concerns and suitable practical measures.

II. General Objectives

The general objective of this course is to make the students familiar with applied and managerial aspects of health education including health science components and health service components. Moreover, the course aims at providing basic skills of general health practice as well as management and organization of games most commonly played:

III. Specific Objectives

On completion of this course, the students will able to:

1. describe the major health problems and community health services of Nepal;
2. decribe the concept contents of family health;
3. identify the role of an individual in promoting family health status by considering family planning behaviours;
4. explain the importace of health education to bring individual and group health beravior change;
5. describe the process of behavioral change through health education measure;
6. describe and apply various methods of health education for changing self and others health behaviors;

7. list various media and materials to be used in disseminating health information and education process;
8. describe how healtl education messages disseminated through various media can be utilized for self and others benefits;
9. explian elements, process and use of interpersonal and group communication techniques in health education;
10. apply health education principles and methods in education for family health and school health;
11. perform fundamental skills in different games;
12. explain the importance of different skills in games; and
13. officiate different tournaments in the games prescribed in the course.

IV. Course Contents

Part - I Health Education (50 marks) 75 teaching hours

Unit 1 Family health 8 teaching hours

a. Concept of family health and responsible parenthood
b. Types, practices, consequences of and programs including prevention and rehabilitition of: (i) drug and substance abuse; (ii) alcoholism-, and (iii) smoking
c. Population overgrowth and small family norm
d. Family Planning: concept, need, and issues
e. Introduction to various methods of contraception: surgical, hormonal, chemical, mechenical barriers, etc.
f. Health education to prevent and control behavioral health problems

Unit 2: Health Problems and Programs Of Nepal

11 teaching hours

(i) Overview of major health problems of Nepal
(ii) Concept of health promotion, disease prevention and illness care
(iii) Introduction to Primary Health Care: Concept component, strategies with reference to Nepal.
(iv) Health policy, programs, and structures of Nepal including that of health education
(v) Health education functions of district public health office, health-posts, sub-health posts, and primary health care end out-reach clinic
(vi) Mobilization of local governmental and non-governmental (NGO) organizations for health service delivery and utilization with people's participation
(vii) Introduction -to local level workers and volunteers including VHW, FCHVs, MeHWs
(viii) Health and development

(ix) International and bilateral health organizations and NGOs in Nepal; WHO, UNICEF, UNFPA, FAO, USAID, JAICA, SCF, DANIDA, UMN

Unit 3: Introduction to Health Education 5 teaching hours

(a) Definition, importance and aims of health education
(b) Principles of health education
(c) Scope of health education: family, community, school, health care setting, worksites

Unit 4: Health Education and Health Behaviour Change

8 teaching hours

(a) Level of health behaviour : knowledge, attitude and practice levels
(b) Health behaviour change: individual, family and neighbourhood levels
(c) Influence of socio-cultural, psycological and economic factors in changing health behaviours.
(d) Processes of health behaviours change

Unit 5: Practice of Health Education Methods 8 teaching hrs

(a) Communication in health education
(b) Mode of health communication: self, family and neighbourhood
(c) Health education methods: concept and uses:
    1. individual methods: inter personal communication, interview, counseling
    2. Small group methods: group discussion, roleplay, street drama, short talk
    3. Large group methods: public display, health cultural program,

Unit 6: Practice of Health Education Materials and Media.

8 teaching hours

(a) Concept and importance of health education materials and media
(b) Self use and use with others of selected health education materials and media: poster, pamphlets, booklets, radio, TV, newspaper, magazine articles, health games, health stories etc.

Unit 7: Health Education in Family 8 teaching hours

(a) Principles and techniques of health education of family members
(b) Teaching children, peers and elderly person on nutrition, personal domestic hygiene, solid waste handling, prevention of communicable diseases etc.
(c) Teaching neighbour's on community hygiene, environmental consumer health and family planning

Unit 8: Health Education in School 11 teaching hours

(a) Concept importance and purposes of school health education

(b) scope of school health education:

1. health instruction: meaning, scope and processes
2. health services: screening and general health, arrangement of First-Aid kit, accident prevention
3. healthful environment: management of safe-drinking water and food, excreta disposal waste handling incluqing reduction, reuse, and recycle of school waste
4. School-community joint actions: school and community cleaning program, health rally, resource mobilization and use, school health volunteering for community health actions

Unit 9: Practical Activities in Health Education 12 teaching hours

a. Community visit, observation of health situation and writing community health assessment report, including recommendation for improvement
b. Preparation of health education materials: poster, flash-cards and pamphlets
c. Conducting health education sessions on selected health topics in the neighborhood
d. Conducting health eduction sessions in schools

Part II Physical Education (50 marks) 75 Teaching hrs

Unit 1: Kabaddi 15 Teaching hrs

1. Introduction to Kabaddi
2. Lay out of the court
3. Lead up games for different skills
4. Major skills of kabaddi:
   a. Raiding - cant, safe raid, dodge, kick
   b. Fielding-chaining baulkline play
5. Major rules of kabaddi
6. Officiating.

Unit 2: Kho-Kho 15 Teaching hrs

1. Introduction to Kho-Kho;
2. Layout of the court
3. Lead up games for different skills;
4. Fundamental skills in Kho-Kho:

(a) Running techniques - straight, zigzag, circle

(b) Chasing techniques:

(i) Giving Kho - simple, early, late and fake Kho,

(ii) Taking the direction.

(iii) Diving: spot and running dive

5. Major rules of the game
6. Officiating

Unit 3: Volleyball **40 teaching hours**

1. Layout of Volleyball court
2. Lead up games for passing, spiking servicing, receiving and blocking
3. Fundamental skills:
    a. Passing-fingering and digging
    b. Servicing-underhand and overhead
    c. spiking-approach, take off, hitting and handing
    d. Blocking-approach, take off, blocking ad landing
    e. Rules and officiating of the game

Unit 4: Football **40 teaching hours**

1. Layout of the ground
2. Lead up activities for passing and kicking
3. Basic skills of football
    a. passing-long shot
    b. Dribbling
    c. Kicking roll, high
    d. Trapping-roll ball, high ball
    e. Heading
    f. Goal keeping
4. Rules and officiating

Unit 5: Basketball **40 Teaching hours**

1. Layout of Baskethall court.
2. Lead up games of Basketball (a) Dodge ball (b) Port ball
3. Basic skills of Basketball
4. Pivoting
5. Game-offensive and defensive tactics
6. Officiating

V. Evaluation Scheme

a. Concept (Theory)
b. Application (Practical)

Question Types

a. Long answer 50% b. Short answer 50%

VI· Reference books:

1. Sherchan, Lokendra, and et.al., Health and Physical Education XII, Quest Publication, ktm
2. Sherchan, Lokendra, Health and Physical-XI, Quest Publication, ktm
3. Kaphle, Bishnumani, Health and Physical Education XII, Bhundipuran Prakashan, Ktm

CHILD DEVELOPMENT AND LEARNING
Grade: XII

Full Marks: 100
Teaching hrs: 150

Introduction

This is a theory course on child psychology, learning and teaching prospective primary level teachers. This course has two major parts. The first part deals with the nature of human growth and development focusing on principles and process of child development. The second part is about the nature ahd process of learning. It is expected that this course will help the prospective teachers in better understanding of children and design effective learning processes in their teaching profession. Students are also required to conduct practical activities to find out the developmental characteristics the learning process of primary school children of their locality.

General objectives:

This course intends to:

- develop basic understanding about the nature and systems of human growth and development;
- make knowledgeable about children's development characteristics and different aspects of development;
- acquaint with the nature and process of learning and factors associated with effective learning; and
- develop ability to apply child psychology and effective learning strategies while teaching at the primary level.

Specific Objectives:

At the termination of the course, the students will be able to:

1. describe the meaning of growth and development and their charatcteristics
2. explain heredity and environment as the determinants of development;
3. identify different stages of human development and list developmental characteristics of Infancy, Babyhood, Early Childhood and Later Childhood;
4. list the developmental tasks of Early Childhood and Later Childhood stages;
5. explain the factors affecting child development;
6. illustrate the different aspects of development of Early Childhood and Later childhood stages;
7. identify the roles of parents and the teachers to safeguard the development of primary school age children;
8. define learning and describe three key elements of learning;
9. illustrate the basic process of learning and show their implication in teaching;
10. identify factors that influence learning and show the factors used in the promotion of effective learning;

11. describe the nature of memory and list techniques for improving it;
12. explain the principles and types of transfer of learning and show the principles utilized in education; and
13. find out some of the developmental characteristics and learning strategies of primary school children of their locality.

PART I
CHILD DEVELOPMENT

Unit I Scope & Importance of Psychology 5 hrs

1. Concept of psychology
2. Education psychology as an applied branch of psychology
3. Purpose and importance of studying educational psychology.

Unit II Nature of Human Growth and Development 10 hrs

- Concept of human growth and development
- Determinants of growth and development (Heredity and Environment)
- Principles/characteristics of development (Development involves change, Early development is more critical than later development, Development is the product of maturation and learning, The development of pattern is predictable, Individual differences in development, There are stages/periods in the developmental pattern, There are social expectations for every developmental period)
- Significance of studying human development

Unit III Stages of Human Growth and Development 5 hrs.

- General concept of different stages (Prenatal, Infancy, Babyhood. Early Childhood, Late Childhood, Puberty Adolescence, Early adulthood, Middle age, Old age or Senescence.
- Developmental tasks and characteristics of Infancy and Babyhood stages .

Unit IV Early Childhood 20 hrs.

- Characteristics and Developmental tasks.
- Physical development (Height, Weight, Body proportions, Body build, Bones and Muscles, Fat, Teeth)
- Skills of early childhood (hand, Leg, Handedness)
- Improvement in speech
- Factors influencing speech development
- Common emotional pattern
- Socialization (Pattern of socialization, family relationships, social & unsocial behavior)
- Development of understanding
- Moral Development
- Family relationships
- Roles of parents and teachers to safeguard the development of child

- Hazards (Physical and Psychological)

Unit V: Late Childhood **20 hrs.**

- Characteristics and Developmental tasks
- Physical development
- Skills of late childhood (categories, Handedness)
- Speech development (special vocabularies, pronunciation, and sentence formation)
- Emotions and emotional expressions (Emotional patterns, Periods of heightened emotions, Beginning of emotional catharsis).
- Social groupings and social behavior.
- Increase in understanding
- Moral attitude and behavior
- Changes in family relationship.
- Factors affecting self concepts .
- Roles of parents and teachers to safeguard the development of child
- Hazards (physical, psychological)

Unit VI: Factors Affecting child Development **20 hrs,**

- Factors affecting Child development (Socio-economic status of family, Parental education, Household workload, Nutritional intake, Child's expectations & needs, Sense of security, Parental treatment of children by gender, Physiological factors)

PART II
NATURE AND PROCESS OF LEARNING

Unit VII Concept of Learning **5 hrs.**

- Meaning & definition of learning
- Characteristics of learning
- Elements of learning (Learners, Stimuli & Response)
- Interrelationship among readiness, maturation and learning

Unit VIII Theories of Learning **25 hrs.**

1. Classical Conditioning
   a. Basic Processes
   b. Main features. Stimulus generalization, Discrimination, Spontaneous recovery and Extinction.
   c. Implications of classical conditioning in learning:
      - Habit formation & Discipline.
      - Eliminating unwanted responses.
2. Operant Conditioning.

i. Basic Processes.
ii. Main features: Behavior shaping, and Reinforcement schedule
iii. Difference between classical & operant conditioning
iv. Implications of operant conditioning in learning: A formation desired behavior and Management of reinforcement in CR

3. Trial & Error Learning Theory
    i. Basic Processes
    ii. Main features: Multiple responses in learning and Gradual progress in learning
    iii. Implications of trail and error in learning: role of reward in -learning and role of practice in skill learning
4. Insightful learning
    a) Basic process
    b) Main features: Perception, Mediation, Discovering new relation, Sudden change in behavior
    c) Implications of insightful learning in concept formation and problem solving.
5. Styles of Learning

Unit IX Memory **5 hrs.**

1. Concept of Memory
2. Measurement of memory (Recall, recognition and relearning)
3. Techniques of improving memory.

Unit X Transfer of learning **10 hrs.**

1. Concept & process involved in-Transfer of Learning (TOL)
2. Types of TOL Positive Negative & Zero
3. Main Principles of TOL : Identical elements & Generalization
4. Factors affecting transfer of learning
5. Techniques of promoting transfer of learning

Unit XI Factors Affecting Learning **25 hrs**

1. Motivation
    - Meaning of motivation
    - Types of motives: Inborn & Acquired
    - Utilizing motives in classroom teaching interest, curiosity, co-operation, competition, achievement, & exploration.
2. Reinforcement
    - Meaning of reinforcement
    - Types/forms of reinforcements: Positive & Negative

- Differentiating reinforcement from reward and punishment
- Managing reinforcement in classroom teaching.

3. Practice
   - Concept of practice
   - Types of practice: Mass & Distributed
     Part versus Whole, Blind & Reinforced
   - Managing Practice in Classroom Teaching.
4. Social, Personal, Teacher and Environmental Factors (Home, community and school)
   - Individual and group learning.
   - Age, Sex, Socio-economic status, Intelligence Attitude, Aptitude, Personality, Co-operation & Competition and their role in learning.

XII. Evaluation System:

This is a theoritical course, so the evaluation of students Learning will be done based on the final examination only. The type and number of questions in the final examination including marks distribution will be given as below:

* 10 short answer-questions - 10 x 7 = 70.
* 3 Long answer- questions - 3 x 10= 30.

XIII. Textbook

* To be written.

XIV. Reference books:

1. Shrestha, Sharan Hari, Child Development and Learning, S.K. Prakashan, Ktm
2. Khatri, Laxmi Prasad, Child Development and Learning-XII, Nepal Sahitya Prakashan Kendra, Ktm
3. Shrestha, Chandra Bahadur et.al., Child Development and Learning, Bhundipuran Prakashan, Ktm

TEACHING HEALTH AND ENVIRONMENT SCIENCE
Grade: XII

FM 50
PM 18
Teaching hrs: 75

1.Introduction

This course is an introduction to the teaching Health and Environment Science curriculum at lower secondary schools and it is designed to impart basic skills and knowledge essential for Environment Science teachers at lower secondary level. Health and Environment Education has become topics of increasing concern to individuals and community. In order to maintain good health, people should get opportunities to understand the importance of knowledge on Health and Environment. This course is designed for students of higher secondary level, Grade XII in order to make them familiar both with teaching skill and the subject matter related to the school level Health and Environment science curriculum. This course will develop competencies in preparing teaching aids and identifying strategies/approaches for teaching different concept of school level Health and Environment Science for young learners.

2.General Objectives

The general objectives of the course are to enable the prospective lower secondary teachers who will:

- learn to motivate pupils to study Health and Environment Science;
- able to teach Health and Environment Science subject in primary and lower secondary levels; and
- develop skills in Health and Environment Science.

3.Specific Objectives

On completion of the course, the students will be able to:

- state meaning and importance of Health and Environment Science;
- study primary and lower secondary level of Health and Environment Science curriculum;
- select appropriate teaching methods and techniques for Health and Environment Science teaching in primary and lower secondary levels;
- prepare and use of different teaching aids related to Health and Environment Science;
- study the communicable and non-communicable diseases and their preventive measures;
- explain the source, effect and mitigation measures of different types of pollution;
- describe the concept and effect of environmental degradation;
- explain the eco-system with emphasis on inter-relation between human beings and environment;
- plan and evaluate teaching Health and Environment Science; and
- list and describe the agencies involved in Environmental Education in Nepal.

CONTENT

Unit I Nature and Philosophy of Health and Environment Science 20 periods

A. Concept and importance of Health and Environment Science in society

- Philosophical aspects of teaching Health and Environment Science
- Nature of health and Environment Science
- Significance of teaching Health and Environment Science

B. Curriculum

- Study of Health and Environment Science curriculum in lower secondary school level.
- Interrelation of cuiriculum, textbook and teacher guide.
- Review and analysis of present Health and Environment Science curriculum of lower secondary school level.

C. Selective teaching methods and techniques

- Field trip, observation problem-solving, experimentation, case study, project method.

D. Planning for teaching Health and Environment Science

- Concept, meaning and importance of planning.
- Micro-teaching and practice teaching.
- Classroom management.

E. Instructional materials

- Concept, and importance of teaching materials in Health and Environment Science.
- Importance of textbook and supplementary reading materials for students.
- Technique and procedure of use and preparation of locally available teaching materials.

F. Evaluation

- Introduction
- Continuous Assessment System (CAS)
- Other devices of student evaluation rather than examination.
- Concept, construction and use of specification chart and item analysis .
- Marking scheme for answer sheet checking and result analysis .

Unit II Teaching Health and Sanitation 15 periods

- Communicable diseases and their preventive measures
- Tuberculosis, Pneumonia, Gonorrhea and Syphilis
- Common cold, Measles, Jaundice, Rabies and HIV positive
- Dysentery and Diarrhoea
- Some non-communicable diseases and their preventive measures
- Diabetes, Cancer and Heart disease
- Drug Abuse and Addiction
- Adverse effect of tobacco and alcohol on human health
- Meaning and concept of sanitation
- Causes and effect of poor sanitation

Unit III: Teaching Source, Effect and Mitigation Measures: 15 periods

- Air pollution
- Water pollution
- Soil pollution
- Noise pollution
- Radiation/Nuclear pollution
- Pesticide pollution

Unit IV Teaching Natural Environment 15 periods

- Concept of Environment
- Ecosystem and its types
- Food chain and food web
- Natural resources (Renewable and non-renewable)
- Bio-geochemical cycle (carbon, nitrogen and water)
- Concept, impact and mitigation measures of envirortmental degradation

Unit V Teaching Environmental Issues and Agencies 10 periods

- Global environmental issues (Greenhouse effect, Acid rain, Ozone layer depletion, climate change, deforestation, degradation of bio-diversity)
- Agencies working in the field of environment (Ministry of Environment, Science & Technology, Ministry of Forest & Soil Conservation, United Nations Environment Programme, International Center of Integrated Mountain Development World Conservation Union IUCN (International Union for Conservation of Nature). Worldwide Wildlife Fund, Nepal Forum For Environmental Journalists)

Evaluation Scheme

The scheme of the evaluation will be as follows:

- Short questions - 8, should attempt any 6
- Long questions - 3, should attempt any 2

  Short questions - 6 x 5 = 30 marks

  Long questions - 2 x 1 0 = 20 marks

Note: Questions should cover all the units included in the course proportionately.

Reference books:

1. Panta, R. R.; Environmental Education, Sujata Prakashan, 2065.
2. Gurung, J.B.; Concept of Environmental Education, Bishnu kumari Prakashika, 2064.
3. Neupane, I. P.; Batabaran Sikshya, Taleju Prakashan, 2061.
4. IUCN; Source Book of Environmental Education, The World Conservation Union, 2000.
5. Plumber, J. and Phillip, N.; The Hand Book of Environmental Education, London, 1 994.
6. Pandit, C.N. - Methods of Teaching Health and Environment Science, Bidur Prakashan, Kathmandu, 2056

TEACHING SCIENCE
Grade: XII

Full marks : 50
Teaching hrs. : 75

I. Introduction

This course is designed with a view to provide teaching skills to the perspective primary and lower secondary science teachers. This course aims to develop modern concept of nature and philosophy of science teaching and their application to class room situation. The student teachers will be exposed to the various instructional techniques and emphasis is given to participatory approach in which learners are focused as centre of teaching learning process. Since this course requires to include contents related to both teaching skills as well as subject matter of science curriculum the curriculum seems long and heavy. Therefore, it is suggested to take few examples from each unit but cover the whole units.

II. General Objectives

The main objective of this course is to provide Instructional skills to the prospective primary and lower secondary science teachers for improving teaching learning process in the schools.

III. Specific Objectives

After completion of this course, the students will be able to:

- explain the nature and philosophy of science teaching;
- explain the importance of science education in primary and secondary curriculum;
- write the significance of science education in society and relate science teaching with live experiences;
- list different types of objectives;
- review primary and lower secondary curriculum to find out the consistency with objectives (Grade level and continuity);
- select, plan and use the appropriate teaching techniques in class and out of class on the topics given in course;
- collect, construct and use the instructional material for teaching science;
- initiate students for learning science in class and out of class;
- demonstrate the experiment related to science course;
- involve students in class activities as well as in field work; and
- construct various types of tests and develop activities to assess the students properly and regularly

IV. Course Contents

Unit I Nature and philosophy of primary and lower secondary science and its importance in society 20 pds

Unit II Teaching physics 15 pds

Unit III Teaching Chemistry	15 pds
Unit IV Teaching Biology	15 pds
Unit V Teaching Astra + Geo. Science	10 pds
Total Periods	**75**

Unit 1. Nature and Philosophy of primary and secondary science and its importance in society

a. Nature and importance of science in society
b. Importance of science in primary and lower secondary curricula
c. Importance and types of different objectives (aim, goal, general objectives, specific objective and behavioral objectives)
d. Review of present science curriculum materials of primary and lower secondary for consistency (continuity, objective, content)
e. Selection, presentation and use of appropriate teaching techniques (discussion, demonstration, inquiry, field trip, experimantation , project)
f. Introduction, steps, format and presentation of lesson plan
g. Collection, preparation and use of teaching materials (with emphasis on locally available materials)
h. Assessment types, techniques and kinds of test items) Initiative and creativity in science teaching

Unit II Teaching Physics

Sub unit 1 Motion and Energy

a) Importance of measurement
b) Motion and rest of object, types of motion, uniform and relative motion
c) Force, types of force, measurement of force.
d) Simple machine - function and uses
e) Density - unit and measurement
f) Pressure - types of pressured in air and liquid
g) Work, energy, power- uses

Sub unit 2 Physical process around us

a) Heat - definition, effect, measurement, thermometer types
b) Light- sources, properties, uses
c) Sound - sources, means of propagation and properties

Sub unit 3. Electricity and magnetism

a) Magnet- types, properties, uses
b) Molecular theory - magnetic induction.
c) Simple wet cell - dry cell, uses
d) Conductor, semi conductor, condor simple circuit

Unit III Teaching Chemistry

a. Change in matter

- Classifying materials around us under solubility, transparency, colour, smell.
- Meaning and uses of mixtures, separation of simple mixture .
- Meaning and examples of element and compound.
- Atomic structure and periodic table (simple cases)
- Solution, solute, solvent, types.
- Acid, base, salt- meaning and properties.

b. Matter around us

- Meaning and properties of metal, non-metal and alloy
- Air and its properties
- Sources, types and removal of hardness of water.

Unit IV. Teaching Biology:

Sub unit A. Teaching about living being

a) Land and aquatic being
b) Flowering plants -different parts and their function
c) Some major plants and animals of Nepal
d) Classification and characteristics of animals and plants

Sub unit B. Teaching Body Structure

a) Cell introduction, structure properties of animal and plant cell
b) Some unicellular animals
c) Some life processes of plants
d) Human body structure, heredity and metabolism

Unit V. Teaching Astra+ Geo science

a) Rock : simple identification, properties and uses
b) Structure of the earth (simple)
c) Earth's land mass, weathering, conservation
d) Weather : factors responsible for weather change
e) Water : sources, properties, uses, water cycle.
f) Air : composition, pollution, effects
g) Earth, Moon and Sun : shape, size and mean distance
h) Plant and Star : simple constellation.

V. Prescribed Textbooks

To be written References

Reference books:

1. Vaidya, Narendra, Impact of Science Teaching, HIB-Oxford New Delhi (Latest Edition).

2. Thurber, Colitte, Teaching Science at Secondary School, Prentice Hall Publication, New Delhi.
3. ----------Teaching Physics Vol. -I, UNESCO, Paris, 1973.
4. ----------Teaching Chemistry Vol. I, UNESCO, Paris, 1973.
5. ----------Teaching Biology Vol. -I UNESCO, Paris, 1973.
6. बज्राचार्य, रुक्मणी, वातावरण विज्ञान शिक्षा, शैक्षिक जनशक्ति विकास केन्द्र, नेपाल सरकार, शिक्षा मन्त्रालय ।

TEACHING SOCIAL STUDIES
Grade: XII

Full Marks: 50
Teaching hours: 75

1. Introduction
This course has been designed for the higher secondary level students of Grade XI to make them familiar with the concepts 'curriculum' text-books and teaching strategies of social studies.

2. General objective:
This course aims at providing understanding and skills of social studies teaching.

3. Specific objectives;
On completion of this course students will be able to:

i. state meaning and important of social studies;
ii. distinguish the concepts of social studies from social education, social science and social studies education;
iii. explain the foundations of social studies;
iv. study the primary and lower secondary levels of social studies curriculum;
v. review the primary and lower secondary levels of social studies textbooks;
vi. select appropriate teaching methods and techniques of social studies teaching for primary and lower secondary levels;
vii. use different teaching aids in social studies;
viii. construct test items based on social studies courJe; and
ix. prepareannual, unit and lesson plan.

4. Course Contents
Unit I. Nature of social studies

1. Meaning and importance.
2. Conceptual differences between social studies and social education, social sciences and social studies education .

Unit II. Social Studies Curriculum

1. Foundations of social studies.
2. study of primary and lower secondary social studies courses.
   a) objectives.
   b) contents (scope and sequence)

Unit III. Study of Social Studies Text-books.

1. Study of primary alower secondary levels social studies text books.
2. Use of text-book.

Unit IV. Selecting effective methods and techniques

1. Lecture
2. Discussion
3. Problem solving
4. Question answer
5. Demonstration
6. Observation
7. Role playing.

Unit V. Teaching Aids (Development and use)

1. Chalk-board
2. . Flannel board
3. Picture
4. Chart
5. Table and Graph
6. Map
7. Globe
8. Model

Unit VI. Construction of test-items

1. 1 . Short answer
2. Long answer
3. Multiple choice
4. Matching
5. Completion
6. True and false.

Unit VII. Planning Social Studies Teaching

1. Annual plan
2. Unit plan
3. Lesson plan.

6. Reference bo.oks:

१. गिरी तथा ज्ञवाली, सामाजिक अध्ययन, रैनादेवी प्रकाशन, काठमाडौँ, २०५१ ।

२. बुढाथोकी, चुडाबहादुर, सामाजिक अध्ययन, काठमाडौँ, बुक्स सेन्टर ।

३. Kochhar, S.K., The Teaching Social Studies, Sterling publication, Pvt. Ltd

४. Khatri, Laxmi Prasad, Teaching Social Studies, Nepal Sahitya Prakashan Kendra, Ktm

{ENG-151}

OPTIONAL ENGLISH
Grade: XII

Full marks: 100
Teaching hours: 150

I. Introduction

The course comprises a selection of literary pieces related to different genres.

II. General Objectives

The general objectives of this course are:

a. to introduce students with the important literary genres namely, novel, short story, essay, drama, and poetry;
b. to expose the students to· various styles, forms, themes, etc. of fiction, and poems;
c. to teach the students rhetoric devices that are used .in different types of essays; and
d. to enable students to explain and appreciate literjlry discourses of different genres.

III. Specific Objectives

This course is focused on the following specific objectives:

1. To further acquaint students to literary genres and select literary works of fiction, drama, poetry and essays.
2. To familiarize students with techniques of textual analysis and literary appreciation on the prescribed text.
3. To impart critical sense and prepare students to write their on appreciation, comments, reviews and evolution of short literary and non- literary works.

IV. Course Contents

SECTION A: **Prose**

Novel: Twentieth Century novel

F. S. Fitzgerald. *The Great Gatsby*

Short stories

- William Carlos Williams. 'The Use of Force"
- Stephen Crane. "An Episode of War"
- Luigi Pirandello. 'The Jar"
- J.F.Powers. "The Valiant Woman"
- Ernest Hemingw.ay. "In Another Country"
- Maupassant. "Duchoux"
- Chekhov. "Enemies"
- Kafka. 'The Hunter Gracchus"
- Isaac Babel. "Di Grasso"

- Chen Jo-Hsi. 'The Big Fish"

Essays

- John Burgess. "A Day in the Life of 'Salaryman'
- Gloria Steinem. 'The Time Factor"
- Joe Godwin Parker. "What Is Poverty?"
- Octavia Paz. "The Day of the Dead"
- Gary Goshgarian. "Zeroing in on science Fiction"
- H.C.mencken. 'The Penalty of Death"

Section B: **Drama**

- Synge. "Riders to the Sea"
- Thornton Wilder. "The Happy Journey"
- Anton Chekhov. "A Marriage Proposal"
- Tennessee Williams. "Lord Byron's Love letter"
- Edmund Rostand. 'The Romancers'
- Arthur Conan Doyle. "Waterloo" ·
- William Inge. "To Bobolink, for Her Spirit"

Section C: **Poems** (on various themes)

- nature: P .B. Shelley. "To the Moon"
- creatures: William Blake. 'Tiger"
- Portrait:- W. Wordsworth. "She was a Phantom of Delight"
- stories.- Alfred Tennyson. "Lady Clare"
- love: William Shakespeare. "Shalf I Compare Thee to a Summer's Day'
- generations: E.E.Cummings. "For Prodigal Road Generous"
- humour: Lewis Carroll. 'The Mad Gardener's Song"
- home and away: Langston Hughes. "Afro-American Fragment"
- belief: John Milton. "On His Blindness"
- commitment: W.B.Yeats. "The Song of Wandering Aengus"
- protest: Emily Dickinson. "Much Madness Is Divinest Sense"
- war : Sandburg. "The Little Girl Saw Her First Troop Parade"
- death: C. Rossetti. "When I Am Dead My Dearest"
- alienation: Paul Simon. "The Sound of Silence"
- human condition: Louis Simpson. "The Innerpart"
- meaning of life: W.H.Auden. "Musee des Beaux Arts"

Matthew Arnold, "Dover Beach"

V. Evaluation Scheme

1. prose **50 marks**

Essay		25 marks
long answer question (1 out of 2)	10 marks	
Short answer questions (3 out of 5)	15 marks	
Short Story		25 marks
Long answer question (1 out of 2)	10 marks	
Short answer questions (3 out of 5)	15 marks	

2. Drama		**25 marks**
Long answer question (1 out of 2)	10 marks	
Short answer questions (3 out of 5)	15 marks	

3. Poetry		**25 marks**
Long answer question (1 out of 2)	10 marks	
Short answer question (3 out of 5)	15 marks	

VI. Reference books:

1. Fitzgerald, F. S., *The Great Gatsby*
2. Elias, M., (ed.). *Plays in One Act*
3. *Generations: A Thematic Anthology of Poems*
4. *Encounters : 1996, A Prose Reader.*
5. Daiches, David, 1979, A Critical History of English Literature~ (4 vols.).
6. Cuddon, J.A., 1991,. *The Penguin Dictionary of Literary Terms and Literary Theory. Penguin Books.*

(HIND-151)

ऐच्छिक हिन्दी
कक्षा : १२

पूर्णाङ्क:१००
पाठ्यभार : १५०

हिन्दी साहित्य एवम् भाषा रचना

१.पाठ्यांश परिचय

यह पाठ्यांश हिन्दी गद्य एवम् पद्य साहित्य के विशिष्ट अध्ययनद्वारा छात्रों के हिन्दी साहित्य के उच्च अध्ययन के लिये आवश्यक पूर्वाधार तैयार करने के उद्देश्य से निर्मित है । साथ ही इसमे छात्रों की भाषिक अभिव्यक्ति क्षमता तथा व्यावसायिक प्रयोग (पत्रलेखन, अनुवाद, आदि) की क्षमता के विकास का भी लक्ष्य रखा गया है ।

२.सामान्य उद्देश्य

इससे हिन्दी साहित्य का परिचय प्राप्त हो सकता है ।

३.विशिष्ट उद्देश्य

इस पाठयांश में उत्तीर्ण होने पर छात्रत्र निम्नप्रकार की दक्षता प्राप्त करेंगे

१. प्राचीन तथा नवीन कविताओं का अर्थ बोध तथा व्याख्या करना
२. साहित्य की सामान्य समीक्षा
३. भाषा की शुद्ध परिष्कृत शैली
४. साहित्यिक तथा कार्यालयीय भाषा प्रयोग की क्षमता
५. हिन्दी के साहित्यकारों के बारे में आवश्यक जानकारी
६. हिन्दी व्याकरण का सामान्य ज्ञान, आदि ।

४.पाठ्यांश विभाजन

क) हिन्दी काव्य २६ अंक
ख) हिन्दी गद्य २६ अंक
ग) हिन्दी उपन्यास १८ अंक
घ) रचना एवम् अनुवाद ३० अंक

५.विवरण

खण्ड क) में निर्धारित काव्यांशो का समीक्षात्मक अध्ययन, भावार्थ, साहित्यिक विशिष्टता तथा पदों कि विशद व्याख्या अभ्यास अपेक्षित हैं ।

खण्ड ख) में आधुनिक हिन्दी गद्या की विभिन्न विधाओ के स्वरुप से परिचय, गद्य लेखन का महत्व, रचनाओं की वैचारिक औं शैलीगत विशेषताएँ, आदि का परिचय तथा सारांश एवम् व्याख्या लेखन की क्षमताका विकास अपेक्षित हैं ।

खण्ड ग) में आधुनिक युग मे साहित्य की सर्वाधिक लोकप्रिय विधा उपन्यास, कथा साहित्य का विशेष अध्ययन अपेक्षित है ।

खण्ड घ) में छात्रों के भाषा प्रयोग मे शद्धता के साथ अभिव्यक्ति क्षमताका विकास तथा पत्र व्यवहार एवं अनुवाद जैसे व्यावसायिक कौशल का विकास अपेक्षित है ।

६.पाठ्यसामग्री

खण्ड (क)

पुस्तक: मंदाकिनी भाग १ (काव्य संकलन), प्रकाशन NCERT (राष्ट्रिय शैक्षिक अनुसन्धान परिषद्) श्री अरविन्द मार्ग नयी दिल्ली

निर्धारित अंश

१.	कविरदास	साखियाँ और पद
२.	सूरदास	विनय, बाललीला, गोपीविरह
३.	बिहारीलाल	दोहे
४.	घनानंद	तीनों पद्यांश
५.	देव	तीनों पद्यांश
६.	मैथिली शरण गुप्त	गीत (यशोधरा से)
७.	सुभित्रा नन्दन पन्त	जागरण
८.	महादेवी वर्मा	दोनों गीत
९.	हरिवंश राय वच्चन	१. इस पार प्रिये मधु है २. युग का जुआ
१०.	दिनकर	आलेक धन्वा
११.	भार भूषण	मुक्ति ही प्रमण है
१२.	दुष्यन्त कुमार	दोनों पद
१३.	रघुवीर सहाय	रामदास
१४.	विजय देव नारायण शाही	हिमालय की याद में एक पत्र

खण्ड (ख) **३९ घण्टा**

पुस्तक: मंदाकिनी भाग १ (काव्य संकलन), प्रकाशन NCERT (राष्ट्रिय शैक्षिक अनुसन्धान परिषद्) श्री अरविन्द मार्ग नयी दिल्ली

निर्धारित अंश

१.	रामवृक्ष बेनीपुरी	जीवन और मरण
२.	रामधारी सिंह दिनकर	कबीर साहव से भेंट
३.	माखन लाल चतुर्वेदी	सुभाष मावन: सुभाष महामानव
४.	कका कालेलकर	छूटे हुए स्वच्छन्द पत्ते
५.	हरिशंक परसाइ	जिन्दगी और मौत का दस्तावेज
६.	यशपाल	सत्य का मूल्य
७.	जगदीश चन्द्र माथुर	भोर का तारा

खण्ड (ग) **२७ घण्टा**

पुस्तक : सारा आकाश लेखक राजेन्द्र यादव, राधा कृष्ण प्रकाशन, प्रा.लि २।३८, अन्सारी रोड, दरियागंज दिल्ली । उपन्यास की कथावस्तु, समस्या शीर्षक, नायक नायिका, चरित्र चित्रण, संवाद, भाषा, शैली तथा महत्व का विवेचन ।

खण्ड (घ) **४५ घण्टा**

१. पुस्तक : आधुनिक हिन्दी व्याकरण और रचना, लेखक वासुदेव नन्दन प्रसाद, भारती भवन, पटना ।

२. अभिनव व्यावहारिक हिन्दी, लेखक परमानन्द गुप्त, विद्यामंदिर, बंगलोर २ । शब्द प्रयोग, संक्षेपण, पल्लवन, विविध पत्र लेखन । अनुवाद : सरल (एल.एल.सी. स्तर की) अङ्ग्रेजी का हिन्दी अनुवाद ।

मूल्याङ्कन

खण्ड (क) से संक्षिप्त समीक्षात्मक दो प्रश्न होँगे । भाव स्पष्टीकरण करने के लिए भी दो पद्यांश दिए जाएँगे ।

खण्ड (ख) से दो संक्षिप्त समीक्षात्मक प्रश्न पूछे जाएँगे । भाव स्पतीकरण करने के लिए भी दो गद्यांश दिए जाएँगे ।

खण्ड (ग) से एक संक्षिप्त समीक्षात्मक प्रश्न पूछा जाएगा । भाव स्पष्टीकरण के लिए भी एक गद्यांश दिया जाएगा ।

खण्ड (घ) से व्याकरण सम्बन्धी तीन छोटे प्रयोगात्मक प्रश्न पूछे जाएँगे । एक अङ्ग्रेजी अनुच्छेद का हिन्दी अनुवाद करना होगा ।

(MAITH-151)

ऐच्छिक मैथिली

कक्षा : १२

पूर्णाङ्क:१००

पाठ्यभार : १५०

पाठ्यांश शीषक : मैथिली पद्य एवम् रूपक साहित्य

१.पाठ्यांश परिचय

मैथिली राष्ट्रक सभसँ प्राचीन, समृद्ध एवम् समुन्नत साहित्य अछि एवम् नेपालक राष्ट्रभाषा नेपालीक पश्चात् सभसँ अधिक लोकद्धारा बाजलजाएवाला भाषा अछि । अतएव ई पाठ्यांश उच्च माध्यमिक स्तरमें अध्ययनरत विद्यार्थी लोकनिके कविता, नाटक एवम् एकाङ्की दिसि अभिमुख करएबा उद्देश्यसँ राखल गेल अछि । एहि विधासबहिक विकासक्रम एवम् रचनाकार लोकनि हेतुएँ आवश्यक विषय वस्तुक समावेश कएल गेल अछि

२.सामान्य उद्देश्य

एहिसँ मैथिली भाषा ओ साहित्यक ज्ञान भ सकैत अछि ।

३. उद्देश्य

एहिपाठ्यक्रमक अध्ययनक पश्चात् विद्यार्थी सभ निम्न तथ्यसँ अवगत होएताह :

१. मैथिली कविता, नाटक एवम् एकाङ्कीक सामान्य परिचय
२. निर्धारित रचनाकार लोकनिक सामान्य साहित्य परिचय
३. निर्धारित कविता, नाटक एवम् एकाङ्कीक विवेचन एवम् आहिमे आएल विशिष्ट मार्मिक अंशक व्याख्या एवम् विश्लेषण ।

पाठ्यांश विवरण

खण्ड क) मैथिली कविता **अंकभार ४०**

१. कविताक परिचय (परिभाषा एवम् तत्व)

२. मैथिली पद्य साहित्यक विकासक्रम (प्रमुख चरण एवम् प्रवृत्ति)

३. निर्धारित कवि लोकनिक परिचय आ हुनका लोकनिक कवितासबहिक सामान्य विवेचन तथा विशिष्ट व्याख्येय अंशक व्याख्या

कवि आओर कविता

१.	विद्यापति	(क) गोसाउनिक गीत (ख) रूप सौन्दर्य
२.	गोविन्द दास	कुसुम वदना
३.	जगज्योतिर्मल्ल	सूर्यक नचारी
४.	उमापति	पाषाण हृदया
५.	यात्री	एहि घर पर बैसल रहए गीद्ध
६.	राजकमल चौधरी	प्रवास
७.	धीरेन्द्र	हैंगर मे टाङ्गल कोट
८.	सोमदेव	खाली आकाश
९.	इलारानी सिंह	शिशु कलकत्ता

१०. रामभरोस कापडि आजुक सन्दर्भमे भानुकें श्रद्धाञ्जलि ।

खण्ड ख) मैथिली नाटक **अंकभार ४०**

१. नाटक परिचय (परिभाषा एवम् तत्व)
२. मैथिली नाटकक विकासक्रम (प्रमुख चरण एवम् प्रवृत्ति)
३. निर्धारित नाटककारसबहिक साहित्यिक परिचय
४. विभिन्न दृष्टिकोष्णसँ : काठल लोक, एकटा आर वसन्त (क) विवेचना आ उल्लिखित नाटकसवहिमे आएल मार्मिक पंक्तिसबहिक व्याख्या एवम् विश्लेषण ।

खण्ड (ग) मैथिली एकाङ्की **अंकभार २०**

१. एकाङ्की परिचय (परिभाषा एवम् तत्व)
२. निर्धारित एकाङ्कीकार लोकनिक साहित्यिक परिचय आ हुनका लोकनिक प्रवृतिगत विशेषता
३. विभिन्न दृष्टिकोणसँ निम्न एकाङ्कीसबहिक विवेचना , एकाङ्कीकार एवम् हुनक रचना
   (क) कुमार गंगानन्द सिंह : जीवन संघर्ष
   (ख) गोविन्द झा : मोछ संहार
   (ग) प्रभास कुमार चौधरी : जाउ अहाँसँ नहि बाजब
   उल्लिखित एकाङ्की सबमे आएल मार्मिक अंकश व्याख्या ।

पाठ्यपुस्तक

१. सं.आनन्द मिश्र एवम् अन्य : मैथिली कविता संग्रह, मैथिली अकादमी , पटना ।
२. महेन्द्र मलंगिया : काठक लोक, मिनाप, जनकपुरधाम ।
३. रामभरोसा कापडि भ्रमर : एकटा आर वसन्त, तरूण प्रकाशन, गाम बेहट, दरभंगा ।
४. सं. सुधांशु शेखर चौधरी : मैथिली एकाङ्की, मैथिली अकादमी, पटना ।

सहायक ग्रन्थ

१. दर्गानाथ झा श्रीश : मैथिली साहित्यिक इतिहास, भारती पुस्तक केन्द्र, दरभंगा ।
२. लेखनाथ मिश्र : मैथिली नाटकक उद्भव एवम् विकास, गरीब निवास पटना ।
३. प्रकाशक चेतना समिति, पटना : मैथिली एकाङ्की

मूल्याङ्कन विधि

सब प्रश्न अनिवार्य अछि ।

प्रत्येक खण्डसँ पूछल जाएवाला प्रश्नसबहिक अंकभार निम्नानुसार होयत :

१. कवितासँ	अंकभार
(क) समीक्षात्मक प्रश्न ३	३०
(ख) व्याख्यात्म प्रश्न २	१०
२. नाटकसँ	
(क) समीक्षात्मक प्रश्न ३	३०
(ख) व्याख्यात्म प्रश्न २	१०
३. एकाङ्कीसँ	
प्रश्न २	२०
	१००

ई पाठ्यांश १०० पूर्णाङ्क होएत आ प्रति सप्ताह ६ घंटी पठन पाठन होयत ।

ऐच्छिक नेपालभाषा

कक्षा : १२

पूर्णाङ्कः१००

पाठ्यभार : १५०

गद्य व साहित्य परिचय

१.पाठ्यांश परिचय

उच्च माध्यमिक तगिंया भिंनिगूगु कक्षाय् ऐच्छिक नेपालभाषा कयाः व्वनीपिनिलागी दय्कूगु थ्व पाठ्यांश सम्बन्धित विद्यार्थीपिनित नेपालभाषाया गद्या साहित्यया नापं नेपालभाषा साहित्यययया इतिहासया सामान्य परिचय बीगु ज्या याइ ।थुकी सम्बन्धित विधाया विकासक्रम थुइके फय्मा धइगु उद्देश्य थुगु क्षेत्रय् नादंपि प्रतिष्ठापित च्वमि पिनिगु रचनायात छुं नमूना कथं छसीकथ तय्गु ज्या गूगु दु ।

साहित्य परिचयस थुगु पाठ्यांश नेपालभाषा साहित्यया इतिहासया सामान्य ज्ञान बीगु याइ । थुकी पुलांपि कवि तथा नाटककारपिं मध्ये सुं छम्ह सिगायु जक विशेष अध्ययन याकेगु मजुसे प्राचीन साहित्यस पद्या तथा नाटकया समष्टि रूपय् सामान्य परिचय बीगु, माध्यमिक कालया साहित्यस प्रमुख साहित्यकारपिनिगु भाषिक तथा साहित्यिक देनयात कयाः संक्षिप्त परिचय वीगु व आधुनिक कालया साहित्यस कविता वाखं उपन्यास, प्याखंया विधागत सामान्य परिचय बीगु जुइ ।

२.सामान्य उद्देश्य :

थ्व पाठ्यांश ब्वने धुंकालि विद्यार्थीपिं क्वय च्वयाकथं ज्या यायगुली सक्षम जुइ :

क) ने.भा.या गद्यरिखे बाखे, उपन्यास व निबन्धया परिचय दय्केगु ।

ख) ने.भा.साहित्यया इतिहास बारे सामान्य खँ सीकेगु ।

३. विशिष्ट उद्देश्य :

थव पाठ्यांश ब्वने धुंकालि विद्यार्थीपिं क्वय च्वयाकथं ज्या यायगुली सक्षम जुइ :

क) बाखं, उपन्यास व निबन्धया लक्षण थुइके बीगु

ख) बाखं उपन्यास व निबन्धया विकासक्रमया सामान्य ज्ञान दय्केगु

ग) पाठ्यय् दुथ्याः पिं सम्बन्धित च्वमिपिनिगु सामान्य साहित्यक परिचय दय्केगु

घ) सम्बन्धित रचनाया पठन पाठन, विवचना व उद्घृतांशया व्याख्या याय् पय्केगु

ङ) नेपालभाषा साहित्यया प्राचीन, माध्यमिक वा आधुनिक स्वरूपया बिधागत सामान्य ज्ञान दय्केगु

पाठ विवरण व पाठ्य सफू

१. बाखं **पाठ्यभार ३०**

क) बाखंया लक्षण

ख) नेपालभाषाया बाखंया विकासक्रम

ग) सम्बन्धित कहानीकारपिनि सामान्य साहित्यिक परिचय

घ) सम्बन्धित बाखंया सामान्य विवेचना, उदेघृतांशया व्याख्या

पाठ्य सफू

छगू देशया । भूषण प्रसाद श्रेष्ठ (सं.) येंः भलसा श्रेष्ठ, ने.सं. ११०९ (क्वच्च्वंगु जक) :

शीर्षक **च्वमि**

१.	द्योयात स्वां छाय्	पूर्ण दास श्रेष्ठ
२.	तुकि	प्रेमबहादुर कसाः
३.	पःखाः	पूर्ण पथिक
४.	अन्तरद्वन्द्व	आहाराम शाक्य
५.	भ्वय् कासा	तीर्थलाल नःघःभनी
६.	छ्वयाच्वंगु इतिहास	हितकार वीर सिंह कंसाकार
७.	मचाम्ह डाक्टरनी	प्रकाश प्रधान
८.	न्हाय्कं स्वस्वं	हरि शंकर रंजित
९.	अनावृष्टि सिरमांया जीवन	सुवर्ण केशरी
१०.	दासिवःम्ह मनू	भूषण श्रेष्ठ

२. उपन्यास **पाठ्यभार ३०**

क) उपन्यासया लक्षण

ख) सम्बन्धित उपन्यासया उपन्यासकारया संक्षिप्त साहित्यिक परिचय

ग) सम्बन्धित उपन्यासया सामान्य विवेचना, उद्घृतांशया व्याख्या

पाठ्य सफू

गुंसिघाँय् । रत्नबहादुर साय्मि, येंः रूबि, नेपालभाषा कुथि, ने.सं. ११०३

३. निबन्ध **पाठ्यभार ३०**

क) निबन्ध लक्षण

ख) नेपालभाषाय् निबन्धया विकास

ग) सम्बन्धित निबन्धया निबन्धकारीपिनिगु सामान्य साहित्यिक परिचय

घ) पाठ्ययय् दुथ्याःगु निबन्धताय्गु सामान्य विवेचना, उद्घृतांशया व्याख्या

पाठ्य सफू

मत जःयल : स्यलुइता : पिकाका गुथि, ने.सं. ११०१ (क्वय्च्वंगु जक)

	शीर्षक	**स्यलुइताः**
१.	लप्ते	चित्तधर हृदय
२.	मां	मोतिलक्ष्मी उपासिका
३.	नेवाः	रत्न ध्वज जोशी
४.	ध्वाकांपिने	ठाकुरलाल मानन्धर
५.	गंगु स्वां	प्रेमबहादुर कसाः
६.	देश प्रेम	फणिन्द्ररत्न बज्राचार्य
७.	ख्वाः स्वः वःपिनि	तेजेश्वर बाबु ग्वंगः
८.	सिकं थ्यूगु ख्वाः	पूर्णबहादुर वैद्य

४. साहित्य परिचय **पाठ्यभार ६०**

क) प्राचीन प्याखं व प्राचीन चिनाखँया समष्टिगतत सामान्य परिचय

ख) माध्यमिक कालया प्रमुख साहित्यकार तथा भाषा सेवी

i. निष्ठानन्द बज्राचार्य
ii. सिद्धिदास महाजु
iii. योगबीर सिं
iv. माष्टर जगत सुन्दर मल्ल
v. धमीदत्य धर्माचार्य

वय्कः पिनिगु भाषिक व साहित्यिक योगदानसम्बन्धी संक्षिप्त परिचय

ग) आधुनिक साहित्यया प्रमुख विधा

i. कविता
ii. बाखं
iii. उपन्यास
iv. प्याखं व
v. निबन्धया सामान्य परिचय

ग्वहालि ज्वलं

१. बाखंया नितिं

क) तुलाधर, प्रेमशान्ति — न्हू बाखं पूचः या बाखंत । येः लाकेल प्रकाशन, ने.सं. ११०९ ।

ख) प्रधान, कृष्णचन्द्र सिंह — झीगु साहित्यय् बाखं । येः मय्जु उत्तरा सिंह, ने.सं. १०९७ ।

ग) प्रधान, नर्मदेश्वर — न्हू बाखनय् कथानक व मनोवैज्ञानिकता, जिगु विचाः जिगु धापु । येः सान्त्वना प्रकाशन, ने.सं ११०५ ।

घ) श्रेष्ठ, माणिकलाल — कहानी साहित्य, मिमल : ने.सं १०९४, पौ. १३९ ।

ङ) सार्मि, भरत(सम्पादक) — बाखं समालोचना । येंः पल्पसा साहित्य ख्यः ने.सं. १०९५ ।

२. उपन्यासया नितिं

चित्रकार, जगदीश — पलाः चिं उपयासया, जः ल्याः८ दँ५ । यँः त्रि चन्द क्याम्पस, नेपाल भाषा साहित्य पालाः, पौल्याः १८५ १९१, ने.सं. १०९८ (वि.सं. २०३४)

३. निबन्धया नितिं

क) कर्माचार्य माधवलाल — निबन्धया विषये, मूसः निबन्ध । येंं च्वसापासा, ने.सं १०८४ ।

ख) जोशी रत्नध्वज — झीगु निबन्ध साहित्य, आरति, यलः कीर्ति सफू कुथि, पौल्या : ३७-३८

ग) तुलाधर, प्रेमशान्ति — निबन्धया बारे छुं, जि.व. जिया दुने । यलः लोक साहित्य परिषद् ने.सं १११५ ।

घ) मल्ल, कमल प्रकाश — मुक्क गद्यया लँय् नेपालभाषा, मूसः निबन्ध । यँः च्वसापासा, ने.सं. १०८४ ।

ङ) वैद्य, जनकलाल — नेपालभाषाया आधुनिक निबन्ध, जःल्याः ७ ने.सं १०९६ ।

४. साहित्य परिचय

क) प्रधान, नर्मदेश्वर — ने.सं. ११०५, धर्मादित्य धर्माचार्य छगू चर्चा, जिगु विचाः जिगु धापू । येंं सान्त्वना प्रकाशन ।

: ने.सं. १११४, नेपालभाषा साहित्यया इतिहायि् संक्रमण काल, नेपाल संस्कृति, दं. ५, ल्याः २ ।

ने.सं. ११२४, नेपालभाषाया पुनरूत्थान काल व कलकत्ता, नेपाल संस्कृति दं. ४, ल्याः ३:४ आश्विन कार्तिक, ।

ख) वैद्य जनक लाल : १०९८, नेपालभाषा साहित्य इतिहासया काल विभाजन, कुलांया तँसा, न्हूदँ क्येयगुया लसता, पृं. १० -१९ ।

ग) भक्तपुर, नगरपालिका : २०४९, जगत सुन्दर मल्ल श्रद्धाञ्जली अंक, भक्तपुर वर्ष ११, अंक १२

घ) लाकौल, वैकुण्ठ प्रसाद : ने.सं. ११०५, स्थीरवाद वयेकेत व नेपालभाषा ह्वयकेत (स्वँगूगु द्या जक) । यँः लोकोल प्रकाशन ।

: ने.सं. ११०८, जिगु मिखाय् जे.एस.मल्ल । यँः लाकौल पिथना ।

ङ) भिक्षु, सुदर्शन : ने.सं. १०९०, लुमंके बहपिं । कान्तिपुरः च्वसापासा ।

च) हृदय चित्तधर : ने.सं. १०८७, झीगु साहित्य । यँः नेपालभाषा परिषद् ।

GERMAN
Grade: XII

Full marks : 100
Teaching hours: 150

I. Introduction

The aim of offering this subject is to give the 10 + 2 students a chance for learning a second foreign language within their secondary education. Foreign language learning and especially the study of German is an excellent tool for increasing the intellectual ability of the learner, the widening of the horizon of general knowledge and providing him/her with more chances in his/her professional career and life as a whole.

II. General Objectives

Building upon Grade XI, this course is a continuation of the acquisition of basic modern everyday German by the adolescent learner. The learner gains further skills of reading, understanding, speaking, and writing German from basic to intermediate levels.

III. Specific Objectives

The specific objectives of the course are to enable the student to communicate in German from the very beginning and throughout the course. The systematics of the German language are secondary to the training for communicative purpose. The Grammatical terminology is based on traditional models.

IV. Course Contents

In an integrated approach the course includes the acquisition of:

- Word power (approx. 1200 words)
- Syntactic Structures for
  - reporting
  - articulating wishes, recommendations, requests
  - speaking about the past
  - making hypothesis
  - indirect questions
  - making notes
  - ordinal numbering
  - expressing or describing complex situations (more than one sentence)
  - defining
  - choosing and rejecting
  - expressing feelings of satisfaction, anger, regret
  - buying things
  - making descriptions
  - asking for information

- naming relations
- orders and prohibitions
- modal expressions ldiirfen, miissen, sollen, konnen, mochten, wollen)
- making appointments
- making interviews
- expressing movement and non-movement
- selected basic information about Germany and German speaking countries ;
- (geography, history, economics, literature, philosophy, music and the arts, society)

Number of Teaching Units 180 = 150 hours

V. Prescribed textbooks:

Course book : Pingpong 2 Max Hueber: Miinchen 1993 2 Cassettes
Exercise book : Pingpong 2 Arbeitsbuch Max Hueber : Miinchen 1992
Pingpong 2 Glossar Deutsch-Englisch Max Hueber : Miinchen 1993
or
Wolfgang Hieber Lernziel Deutsch Max Hueber Verlag, (Recommended Text Book for Stds XI - XII by the Maharastra State Board of Secondry and Higher Secondary Education, Pune) Published in India by German Book Centre 32, Second Main Road, C.I.T. East, Madras 600 035, 1990,

VI. Reference books:

- Map of Germany or Map of Central Europe.
- Duden Band 1 *Die deutsche Rechtschreibung Duqenverlag* 1998.
- Langenscheidts *Handworterbuch Deutsch/Engisch Englisch/Deutsch* 1998.
- Helbig/Buscha *Deutsche Grammatik* Langenscheidt 1998.
- H.F. Wendt Kurzgrammatik Deutsch Langenscheidt/Goy 1 Saab: Delhi 1996.
- Haussermann *Sprachkurs Deutsch* Band 2, *Diesterweg/Goyl* Saab: Delhi 1998.
- Braun/Nieder/Schmoe *Deutsch als Fremdsprache* IB Klett.

JAPANESE LANGUAGE
Grade: XII

Full Marks: 100
Teaching Hours: 150

I. Introduction

This course is designed for Grade XI students, its aim is to impart basic communicative competence in speech and written in Japanese. It is intended to produce mid-level manpower and create interest in further studies the Japanese language:

II. General Objectives

The general objectives of this course are to:

a. give a foundational knowledge of the Japanese Language;
b. express some ideas about Japan, Japanese people, society & culture; and
c. enable the students to read, write and converse in Japanese Language (formal and informal way).

III. Specific Objectives

The specific objectives of this course are to:

1. make the students more able to read and write;
2. apply honorific, polite and humble expressions according to the situations;
3. give knowledge about Japan, Japanese people, society and culture;
4. make the students converse in different situations; and
5. make the students read, write and communicate in Japanese.

IV. Course Contents

Shin Nihongo II

1. Dormitony
2. Asking the ways
3. Flower viewing
4. Lost goods
5. Use of construction tools
6. Summer vacation
7. In the hospital
8. Safety advice
9. Car assembling
10. To buy a video
11. 11 . Writing a report
12. Excursion
13. On the way back home
14. Receiving permission

15. Practical training plan
16. Correcting letters/errors
17. Invitations
18. Group tour
19. To copy
20. Meeting
21. Announcement,
22. Earthquake
23. New Years day
24. To telephone
25. Farewell party

1. 25 Lessons- 125 hrs. (5x25)

2. Practical- 25 hrs. (Kanji, Dictation, Composition, Conversation, Role play, Translation, Listening)

V. Evaluation Scheme

a. Concept

Grammar	35
Translation	10
Dialogue	10
Composition	15
Kanji	20
Question Answer	10
Total	**100**

b. Application

Question Types:

a. Long answer

1 . Composition	15
2. Dialogue	10
3. Question Answer	10
4. Translation	10

b. Short answer

1. Kanji (Furigana to Kanji 10 Kanji to Furigana 10)
2. Grammar (Particles, verbs, adjectives, adverbs, numerals)

VI. Prescribed textbooks:

1. Shin Nihongono Kiso Part II
2. Basic Kanji Book Vol I (L 1 to ail)

VII. Reference books:

1. Tokuhonl
2. Modern Japanese
3. Shokyu Nihongo
4. Nihongono Kiso II
5. Yansan to Nihon no hitobito.
6. Audio Video - Shin Nihongono Kiso II

URDU
Grade: XII

Full marks: 100
Teaching hours : 150

I. Introduction

This course has been designed for the higher secondary students offering Urdu language and literature as an optional subject. It comprises literary pieces various generes of Urdu prose and poetry as well as composition and grammar

II. General Objectives

This course aims at enabling students to:

a. appreciate various generes of Urdu literature and language;
b. develop attitude towards the promotion of Urdu literature and language; and
c. apply various style, forms, rhetoric, idioms and phrases in Urdu speech and writing.

III. Specific Objectives

On completion of this course students will be able to:

1. explain the given passage with reference to the context;
2. make critical study of the pieces included from various generes e.g. short stories, fiction, novel, drama, essay, poetry, etc.;
3. define the different generes of prose and poetry;
4. give brief introduction of the authors and poets whose works are included in the course; and
5. use literary devices and grammatical rules in spoken and written language,

A:

1. Prose (explanation with reference to context) 20
2. Poetry (explanation) 20
3. Critical note on prose-writer or poet 10
4. Summary of prose lesson or poem 10

B:

1. Essay or paragraph on any topic 15
2. Definition of Dastan, Novel, Short story, (Afsana) Drama (Anshayia), Light-essay, Ghazal, Masnavi, Qaseeda, Blank-verse (Nazam-e-Muarral, Free-verse, Rubai, Gatta, Musaddas (Azad Nazm) Rhatorics (Tashbeah, Ista'ara, Majazmursal) Sana'a Bada'a: (Tazad, Taluech, Husn-e-Ta' leel)

FRENCE
Grade: XII

Full marks: 100
Teaching hours: 150

I. Introduction

The course of study of French for Grade XII is designed for students on the assumption that they have fulfulled the requirements for the course of study of French for Grade XI. Therefore, it builds on the already acquired knowlegde of the language to enhance both communiative skills and knowledge of French culture and civilization .

II. General Objectives

This Course aims at teaching more advanced skills of reading, writing, listening and speaking French. It also aims at imparting more economic and social information with a French cultural context.

III. Specific Objectives are:

1. to build on knowledge of vocabulary and grammar items taught in Grade XI,
2. to introduce certain concepts of the social, economic and cultural aspects of French civilization; and
3. to teach students to describe and narrate places, animals, people, festivals and events.

IV. Course Contents

1. Voice: active and passive
2. Subjunctive mood
3. Tense aspects and consistency
4. Simple and compound relative pronouns
5. Interrogative adjectives
6. Various uses of pronouns
7. Verbs followed by infinitives
8. Agreement of Verbs
9. Agreement of parts of speech
10. Prepositions: "a" and "de"
11. Conditional: past and present
12. Adverbs: quantity, place, affirmation, negation, doubt, interrogation
13. Subject and Verb: Agreement, order
14. Adjectives: types and positions
15. Prepositions and complements
16. Logical analysis
17. Expressions of cause, consequence, objective, opposition, condition and comparison
18. Tense agreement

V. Prescribed textbooks:

1. G. Mauger Course de Language et de Civilization Francaises II.

VI. Reference books:

1. G. Mauger, Grammaire Francaise.
2. Bescherelle, 8000 mots conjuges.
3. Collins: French-English Dictionary (Bilingual).

ऐच्छिक नेपाली द्वितीय
कक्षा : १२

पूर्णाङ्क :१००
पाठ्यभार : १५०

नेपाली कविता, नाटक र साहित्यको इतिहास

१.पाठ्यांश परिचय

यो पाठ्यांश उच्च माध्यमिकक तहमा अध्ययन गर्ने विद्यार्थीहरूलाई कविता, काव्य तथा नाटक, एकाङ्की र साहित्यको इतिहासमा विशिष्टीकरणतर्फ अभिमुख गराउन राखिएको हो । यसमा उक्त विधाहरूको सामान्य विकासक्रम र सम्बन्धित लेखकका रचनाहरूको परिचयात्मक अध्ययन तथा नेपाली साहित्यको ऐतिहासिक चिनारीका लागि विषवस्तु समावेश गरिएका छन् ।

२.साधारण उद्देश्य

यो पाठ्यांश पूरा गरेपछि विद्यार्थीहरू निम्नलिखित कुरामा सक्षम हुनेछन् ।

१. नेपाली साहित्यको उन्नतिका निम्ति सकारात्मक भावना अभिवृद्धि गर्न,
२. साहित्यिक चर्चा, परिचर्चा, लेखन कार्यहरूमा सहभागी भई आफ्ना दृष्टिकोणहरू व्यक्त गर्न,
३. भाषिक अभिव्यक्तिमा साहित्यिकता सिर्जनात्मकता, सुन्दरताप्रति अभिप्रेरित हुन,
४. निर्धारित कविता, काव्य र नाटक, एकाङ्कीहरूको अध्ययनबाट कविता, काव्य र नाटक, एकाङ्कीको लेखन क्षमताको विकास गर्न ।

३.विशिष्ट उद्देश्य :

यो पाठ्यांश पढेपछि विद्यार्थीहरू निम्नलिखित कुराहरूमा सक्षम हुनेछने :

१. नेपाली कविता, काव्य र नाटक एकाङ्कीको विकासक्रमको सामान्य परिचय दिन,
२. निधीरत रचनाका रचनाकारहरूको सामान्य परिचय दिन,
३. निर्धारित कविता, काव्य र नाटक एकाङ्कीहरूको विभिन्न कोणबाट विवेचना गर्न,
४. नेपाली साहित्यको संक्षिप्त ऐतिहासिक रूपरेखा स्पष्ट पार्न ।

खण्ड (क) नेपाली कविता
अङ्क: ३०, पाठ्यभार : ४५

१. कविताको परिचय (परिभाषा र तत्वहरू)
२. नेपाली कविताको विकासक्रम (प्रमुख चरण र प्रवृत्ति)
३. निर्धारित कविहरूको परिचय र तिनका कविताहरूको सामान्य विवेचना र विशिष्ट पंक्तिहरूको व्याख्या ।

(क) भानुभक्त	प्रश्नोत्तर
(ख) मोतीराम भट्ट	मलाई हिजोसम्म क्या क्या छकाये
(ग) लेखनाथ पौड्याल	हिमाल
(घ) घरणीधर कोइराला	साहित्य सुधा
(ङ) बालकृष्ण सम	म पनि द्यौता मान्छु
(च) लक्ष्मीप्रसाद देवकोटा	भिखारी
(छ) सिद्धिचरण श्रेष्ठ	ओखलढुङ्गा
(ज) गोपालप्रसाद रिमाल	आमाको सपना

(झ) माधवप्रसाद घिमिरे — नवयुवक
(ञ) कदारमान व्यथित — सिपाही
(ट) अगमसिंह गिरी — नचिनिने भएछौ
(ठ) भूपि शेरचन — मैनबत्तीको शिखा
(ड) विजय मल्ल — छोरीलाई मानचित्र पढाउँदा
(ढ) मोहन कोइराला — सारङ्गी
(ण) भरतराज पन्त — मेघ विजुली विवाह
(त) हरिभक्त कटुवाल — यो जिन्दगी खै के जिन्दगी
(थ) दिनेश अधिकारी — हट् घोडा हट्

खण्ड (ख) नेपाली खण्डकाव्य

अंक २०, पाठ्यभार ३०

१. खण्डकाव्यका परिचय
२. खण्डकाव्यकार लक्ष्मीप्रसाद देवकोटा, माधवप्रसाद घिमिरे र सिद्धिचरण श्रेष्ठ
३. उल्लिखित खण्डकाव्यहरूका मार्मिक पंक्तिहरूको व्याख्या

खण्ड (ग) नेपाली नाटक

अंक २०, पाठ्यभार ३०

१. नाटकको परिचय (परिभाषा र तत्वहरू)
२. नेपाली नाटकको विकासक्रम (प्रमुख चरण र प्रवृत्तिहरू)
३. नाटककार बालकृष्ण सम, भीमनिधि तिवारी र विजय मल्ल तथा उनका विशेषता
४. विभिन्न कोणबाट मुकुन्द इन्दिरा, माटाको माया र कोही किन बर्बाद होस् नाटकको विवेचना
५. उल्लिखित नाटकहरूका मार्मिक पंक्तिहरूको व्याख्या

खण्ड (घ) : नेपाली एकाङ्की

अंक : २०, पाठ्यभार : ३०

१. एकाङ्कीको परिचय (परिभाषा र तत्वहरू)
२. निर्धारित एकाङ्कीकारहरू र उनका विशेषता
३. विभिन्न कोणबाट निम्नलिखित एकाङ्कीहरूको विवेचना
   (क) हृदयचन्द्रसिंह प्रधान — खैराती मास्टर
   (ख) गोविन्दबहादुर मल्ल (गोठाले) — म कसरी हार्छु
   (ग) फणीन्द्रराज खेताल — फ्युज गएको इज्जत
   (घ) मनबहादुर मुखिया — अँध्यारोमा बाँच्नेहरू
४. उल्लिखित एकाङ्कीहरूका मार्मिक पंक्तिहरूको व्याख्या

खण्ड(ङ) नेपाली साहित्यको इतिहास

अंक : १०, पाठ्यभार : १५

१. नेपाली साहित्यको काल विभाजन (सामान्य परिचयमात्र)
२. प्राथमिक कालको चिनारी (प्रमुख धाराका विशेषता समेत)

३. माध्यमिक कालको चिनारी (प्रमुख धाराका विशेषतासमेत)

४. आधुनिक कालको चिनारी (प्रमुख धाराका विशेषतासमेत)

पाठ्य तथा सहायक पुस्तकहरू

१. नेपाली कविता भाग १	साझा प्रकाशन
२. नेपाली साहित्य शृङ्खला भाग १ र २	एकता बुक्स डिष्ट्रिव्युटर्स
३. देवकोटा, लक्ष्मीप्रसाद, मुनामदन	साझा प्रकाशन
४. घिमिरे, माधवप्रसाद, राष्ट्रनिर्माता	साझा प्रकाशन
५. श्रेष्ठ, सिद्धिचरण, आँशु	साझा प्रकाशन
६. सम, बालकृष्ण, मुकुन्द इन्दिरा	साझा प्रकाशन
७. तिवारी, भीमनिधि, माटाको माया	साझा प्रकाशन
८. मल्ल, विजय, कोही किन बर्बाद होस्	साझा प्रकाशन
९. एकाङ्की संग्रह	साझा प्रकाशन
१०. शर्मा, मोहनराज र श्रेष्ठ, दयाराम नेपाली साहित्यको संक्षिप्त इतिहास	साझाप्रकाशन
११. शर्मा, तारानाथ, नेपाली साहित्यको इतिहास	साझा प्रकाशन

टिप्पणी : ढाँचाअनुसार पाठ्यसन्दर्भ सामग्री अलग्गै हुनुपर्ने भए तापनि पाठ्यसामग्री छुट्टै बनाउनुपर्ने हुनाले हाललाई अलग अलग छुट्याउन नसकिएको ।

ENVIRONMENT EDUCATION
Grade: XII

Full marks: 100 (90T + 10 P)
Teaching hours: 150

1. Introduction

This course addresses three aspects of environment, namely (a) The national education objectives related to environment, (b) Country's growing concern about environmental degradation, and (c) The academic opportunities for study environment subject. Objectives of national education system emphasizes teaching of thoughtful protection and wise use of country's natural resources, helping the individuals lead a socially harmonious lives in the modern world, and helping the modernization process of the country creating capable manpower for its development.

The modern world is threatened by increasing environmental degradation and natural as well as anthropogenic hazards. There is growing demand for making people aware of consequences of environmental degradation and stimulating them to act wisely to protect the environment.

Opportunities for higher education in environmental science and environmental education are available. Teaching on these disciplines has been initiated at primary as well as secondary school levels. Demand for academically qualified and methodologically skilled teaching manpower will increase in future. This background has prompted the implementation of the environmental education course in the higher secondary school level. Implementation of this course will help to produce potential teachers who:

(a) are able to teach environmental subjects in primary and lower secondary schools;
(b) can qualify themselves to pursue bachelor level studies in environmental education;
(c) are conscious about the wise use of country's natural resources without damaging the environmental balance and
(d) are able to act thoughtfully to protect the environment.

2. General objectives

The general objectives of the course is to develop the potential manpower which are well aware of environmental issues and their underlying cause, measure to minimize environmental degradation and who are able to stimulate themselves to take necessary actions to protect the environment, including teaching the students of lower secondary level.

3. Specific objectives

On completion of the course the students should be able to:

1. describe how environmental education can help for sustainable development;
2. list and describe the agencies involved in environmental education in Nepal;
3. explain environmental situation in Nepal;
4. describe and apply various methods of teaching environmental education in lower secondary school level;

5. select, prepare and use materials required for teaching environmental education course; and
6. plan and evaluate teaching environmental education.

Course Contents

Unit I : Environmental problems and Sustainable Development in Nepal

20 teaching hours

1. Interrelationship between development and environment.
2. Principles of sustainable development.
3. Environmental stewardship and sustainable development.
4. Unique features of environment of Nepal-physiographic, climatic, biotic variations
5. Cultural heritage of Nepal
6. Major environmental problems in Nepal and their effects.
7. National policy on environment and environmental education.
8. Role of environmental education in sustainable development.

Unit II : Environmental Sanitation **20 teaching hours**

1. Introduction
2. Causes and effects of poor sanitation
3. Communicable diseases-airborne. diseases, food- and water-borne diseases, their preventive and control measures
4. Solid Waste: Definition of solid waste, sources and types of solid waste, composition of municipal solid wastes in Nepal, hazardous waste, solid wastes management and safe disposal.

Unit III : Environment related institutions in Nepal

(15 teaching hours)

Role, scope and activities of the following institutions on environmental protection:

1. National institutions:

Ministries of Population and Environment, forest and soil Conservation, Industries, health and Solid waste management and resource Management Centre/HMG

2. International agencies:

World Wide Fund for Nature (WWF), UNEP, IUCN-the World Conservation Union, International Centre for Integrated Mountain Development (ICIMOD) United Nations Environment Protection (UNEP)

Unit IV : School level Environment curriculum in Nepal

(15 teaching hours)

1. Meaning and definition of environmental curriculum
2. Importance of environmental education curriculum

3. Objectives and scope of environmental education curriculum
4. Environmental education in Nepal.
5. Overview of primary and lower secondary level curriculum on environment in terms of objective and content (sequence and scope)

Unit V: Methods of Teaching Environmental Education

(20 teaching hours)

1. Concept, philosophy/maxim, selection and principles of teaching methods of environmental education.
2. Factors determining choice of method
3. Concept focused teaching methods: lecture, discussion, demonstration, inquiry, experiments, question answer and seminar.
4. Activity focused teaching methods: role-play, audio-visual presentation, informational materials development projects, creative arts, environmental games and field trip.

Unit VI: Materials and Media for Teaching Environmental Education

(30 teaching hours)

1. Concept, importance and selection of materials and media for environmental education.
2. Various types of materials and media used in teaching environmental education.
3. Criteria for selection of educational materials and media.
4. Preparation and use of materials for teaching environmental education.
5. Sources of educational materials and media.

Unit VII: Planning and Evaluation of Teaching Environmental Education

30 teaching hours

1. Concept and importance of planning of teaching.
2. Planning of teaching environmental education
   a) Annual Plan
   b) Unit Plan
   c) Lesson Plan:
      i. Objectives, (affective, psychomotor, and cognitive domain)
      ii. Instructional material
      iii. Activities
      iv. Evaluation
3. Various methods of evaluation of teaching of environmental education
   (a) Formative (b) Summative
4. Tools of evaluation of teaching of environmental education.

i. Test
ii. Observation
iii. Records (Anecdotal and cumulative)

5. Test construction and making schemes.

Evaluation scheme:
This course consists of 100 full marks, which will be divided into 90 marks for theoretical and 10 marks for practical learning. The pass marks will be 32 for theoretical and 4 marks for practical evaluation. The scheme of evaluation will be as follows:

Theory: a) subjective questions (long and short questions) 90 marks
Note: Questions should cover all the units included in the course proportionately.

Practical: Field report: 5 marks
Indoor practical and viva: 5 marks

Prescribed text books:
Suitable textbook to be developed.

Reference materials:

1. Pandit, Chid a Nand a, Fundamental of Environmental Education. K.P. publication, Kathmandu, 2001.
2. Centre for Environment Education, Essential learning in Environmental education, GEE, Ahmadabad, 1990.
3. Plumber, Joy abd Phillip Neal, the handbook of Environmental education, London, 1994.
4. Neupane, lshwor prasad, Batabaran Sikshya. Taleju prakashan, 2061.
5. Gurung, Juddha Bahadur, Environment Education-XII
6. Sharma, Prabin Kishor et.al., Environment Education-XII, Bhundipuran Prakashan.

RURAL DEVELOPMENT
Grade: XII

Full marks: 100 (80T+ 20P)
Teaching Hours 150

I. Introduction

This course is designed for the students of secondary level offering Rural Development as an elective subject in Grade XII. The purpose of this course is to familiarize the students with the approaches, planning, management and implementation of rural development with reference to Nepal. It will enable the students to understand the principles of rural development along with the strategies and policies of rural development in Nepal.

II. General Objectives

This course aims at providing basic theoretical knowledge of rural development and equipping the students for action work in the field of rural development.
The general objectives are:

1. to acquaint the students with the principles of rural development; and
2. to introduce the stCidents to the issues and policies of rural development in Nepal.

III. Specific Objectives:

On completion of the course, the students will be able to:

1. explain the concept and elements of rural development planning in Nepal;
2. explain the management practices and financing rural development;
3. describe the approaches of rural development;
4. Identify the planning tools and techniques for rural development;
5. describe the implementation, monitoring and evaluation mechanisms of rural development projects;
6. explain the rural economic structure of Nepal;
7. explain the system of operation of rural development institutions in Nepal;
8. explain the rural development policies, strategies and prospects in Nepal;
9. state the rural environment and sustainable development in Nepal; and
10. develop the skills of generating field level information and writing project reports on the issues of rural development.

IV. Course Scheme

Units	Title of Course	Teaching Hours
Part A: Principles of Rural Development		**65**
1	Planning for Rural Development	10
2	Managerrent Practices and Financing Rural Development	15
3	Approaches of Rural Development	10

4	Planning Tools and Techniques for Rural Development	20
5	Implementation, Monitoring and Evaluation of Rural Development	10
Part B: Rural Development in Nepal		**65**
6	Rural Economic Structure of Nepal	20
7	Institutions for Rural Development in Nepal	10
8	Rural Development Policies, Strategies and Prospects	10
9	Environment and Sustainable Development	25
Part C Practicum: Report Writing		**20**
10	Report writing-of the Field Work	20
	Total Teaching Hours	**150**

V. Course Content

Part A: Principles of Rural Development Teaching hours 65

Unit 1: Rural Development Planning Teaching hours 10

- Concept ;
- Need for micro planning
- Elements of micro planning

Unit 2: Management Practices and Financing Rural Development Teaching hours 15

- Principles of rural development management
- Human resource management for rural development
- Conflicts in rural development and methods of managing conflicts
- Sources of fund for rural development
- Fund raising for rural development

Unit 3: Approaches of Rural Development (Basic Features) Teaching hours 10

- The modernisation theory or market-led approach
- Dependency theory
- Participatory theory

Unit 4: Planning Tools and Techniques for Rural Development Teaching Hours 20

- Process for local level plan formulation
- Data collection for project formulation - primary and secondary
- Tools and technicues: Participatory Rural Appraisal (PRA), Rapid Rural Appraisal (RRA), Participatory Learning and Action (PLA) and Focus Group Discussion (FGD)

Unit 5: Implementation, Monitoring and Evaluation of Rural Development
Teaching Hours 10

- Project implementation-process and basic elements of implementation plan

- Project monitoring-purpose and process
- Project evaluation-objectives and methods (before and after, with and without)

Part B: Rural Development in Nepal **Teaching Hours 65**

Unit 6: Rural Economic Structure of Nepal **Teaching hours 20**

- Agrarian structure
- Land tenure system
- Agrarian movement
- Rural industries-small and cottage industries
- Infrastructure - roads, communications, irrigation and electrification
- Rural market-types and channel
- Rural indebtedness and institutional finance
- Entrepreneurship and informal sector
- Village tourism

Unit 7: Institutions for Rural Development in Nepal **Teaching hours 10**

- Government Institution- Ministry of Local Development and Ministry of Women Development (functions and programmes)
- Private sector: Corporate Social Responsibility, Private Voluntary Organisations (PVOs) -their objectives and features
- Social organisations: self-help groups, civil societies, NGOs, CBOs-their objectives and features

Unit 8: Rural Development Policies, Strategies and Prospects **Teaching hours 25**

- Rural development policy- goals and features
- Strategies of rural development: concepts and types
- Elements of change in rural life of Nepal: Education, technology, urbanization, exposure: internal and external
- Resource richness and prospects: bio-diversity, topographical richness and natural beauty, social harmony and cultural heritage

Unit 9: Environment and Sustainable Development **Teaching Hours 10**

- Environment management for sustainable development
- Bio-diversity and environment conservation in Nepal

Part C : Practicum: Report Writing **Teaching Hours 20**

Unit 10: Report writing of the field works **Teaching Hours 20**

A short project report of a fieldwork based on the field study is to be prepared by the students of rural development. The topic of the project work has to be related with the rural development issues. The weightage for report writing Will be of 20 marks out of wi)ich 10 marks will be for

internal and 10 marks for external evaluation. The internal evaluation of the project work is to be done by the subject teacher of the school/college and verified by the Principal of the concerned school/college. The report and internal marks are to be sent to the Controller Office, HSEB, for external evaluation.

VI. Instructional materials

a. Journals/Articles
b. Charts
c. Posters

VII. Instructional techniques

a. Lecture
b. discussion
c. observation/field visits
d. parties pastor approach
e. Report writing
f. group works

VII. Evaluation Scheme

Question No	**Nature of questions**	**Marks**
Part A: Principles of Rural Development		**40**
1	Long question	10
2	Long question	10
3. a. b. c. d	Short questions (attempt any two)	5X2 = 10
4. a.b.c.d.e	Very short questions (give short answer)	2X5 = 10
Part B: Rural Development in Nepal		**40**
6	Long question	10
7	LonQ question	10
8.a, b, c, d	Short questions (attempt any two)	5X2 = 10
9 a.b.c.d.e	Very short questions	2X5 = 10
Sub total marks		80
Part C: Practicum: Report Writing		**20**
10 Report writing of the field work (Internal + External Evaluation)		10+10=20
Grand Total		**100**

IX. References

1. Singh, Katar, Rural Development: Principles, Policies and Management, Vistar Publication New Delhi.

2. Saurath, Vivek, Rural Development: Planning Strategies and Policy Imperatives, Dominant Publishers and Distributors, New Delhi.
3. Saurath, Vivel, Rural Development Major· Issues in Agriculture Management, first edition (2002), Dominant Publishers and Distributors, New Delhi.
4. Rastogi, K., Rural Development Strategy, Wide Vision.
5. Dahal, Madan Kumar and Dahal, Dev Raj (ed), Environment and Sustainable Development in Nepalese Perspective, Nepal Foundation for Advanced Studies (NEFAS).
6. Adhikari, Shyam Prasad, Rural Development in Nepal: Problems and Prospects, sajha Prakasan.
7. Bista, Santosh Kumar, Rural development in Nepal: An Alternative Strategy, (first edition 2000), Krishna Kumar Shrestha.
8. Dahal, Ram Kumar, Rajya ra Gramin Bikas (State and Rural Development first edition), New Hira Books Enterprises.
9. Lekhak,. H.D. and Lekhak, Binod, Natural Resource Conservation and Sustainable Development in Nepal, Kshitz Publication.
10. Luitel, Chakra'pani, Rural Development: Theories, Techniques and Approaches, Pradhan Book House, Kathmandu.
11. United Nations, Guidelines for Rural Centre Planning, Economic and Social Commission for Asia and the Pacific.
12. Mathema, Kanhaiya R. B., Strategies of Rural Development in Nepal: Some Observations Some Thoughts, Sitadevi Mathema.
13. Lele, Uma, The Design of Rural Development lessons from Africa, The Johan Hopkins university Press Baltimore and London.
14. Leila, Narayan, Ethnicity in Urban Context, Rawat Publications.
15. Panta, Y.P., Planning and Rural Development, Mohan Primlani for Oxford and IBH Publishing Co. Pvt. Ltd.
16. Dhadave, M.S., Joshi, K. G. and Mikundi, S. G. (ed), Rural and Urban Studies in India, Rawat Publications.
17. Shrestha, Ananda P. (ed), The .Role of Civil society and Decentralisation in Nepal, Nepal Foundation for Advanced studies.
18. Karan, Pradyumna P. and Ishii, Hiroshi, Nepal A Himalayan Kingdom in Transition, United Nations.
19. Sapkota, Keshabraj et.al., Rural Development XII, Bhundipuran Prakashan, Ktm

ELEMENTS OF FINANCE
Grade: XII

Full Marks: 100
Teaching Hrs: 150

1.INTRODUCTION

Finance is an emerging discipline. Traditionally finance was concerned With financial instruments and institutions only. But, the scope of finance has now been expanded to encompass areas like mathematics; statistics, working capital management, financial analysis, risk, insurance, and multinational finance. The role of finance in company's success lias become paramount as all business decisions and activities of a business have financial implications. As such Finance as a subject has found a prominent place as one of the functional areas of commerce education at the higher secondary level.

2.GENERAL OBJECTIVES

General objectives of this course are to enable the students to understand concepts and principle of elementary finance as foundation for higher level education and to impart skills required for understanding corporate finance.

3.SPECIFIC OBJECTIVES

On completion of this course, the student shall be able to:

a. describe the concept and scope of corporate finance and its environment;
b. appreciate the significance of financial statements in analyzing financial problems of the business;
c. discuss and compute short-term and long-term source of finance;
d. acquire elementary knowledge of investment decision tools;
e. explain the concepts and importance of working capital in business;
f. appreciate different components of current assets; and
g. explain the concept and importance of dividend.

CONTENTS AND UNIT-WISE TAECHING HOUHS

Units	Chapters	Teaching Hours
1	Overview of Corporate Finance	10
2	Business and Financial Environment	12
3	Financial Statements and Cash Flows	13
4	Short-term Financing	15
5	Long-term Financing	15
6	Cost of Capital	8
7	Investment in Fixed Assets	15
8	Basics of Working Capital	12

9	Managing Current Assets	25
10	Dividend	10
11	Multinational Finance	15
	Total	150

COURSE CONTENT

UNIT 1 :OVERVIEW OF CORPORATE FINANCE

concept of corporate finance; Evolution of finance; Finance functions; financial , decisions (investments, financing and liquidity).

UNIT 2 : BUSINESS AND FINANCIAL ENVIRONMENT

Forms of business organization-sole proprietorship, partnership, company; Concept of income tax. The financial environment-the purpose of financial market, financial intermediaries, financial brokers, and the secondary market, Nepal Stock Exchange: organization and functions.

UNIT 3 :FINANCIAL STATEMENTS AND CASH FLOWS

Concept and uses of financial statements in financial deCision-making: income statement, balance sheet, statement of retained earning and cash flow statement; Depreciation and and cash flows; Computation of cash flows after tax (CFAT).

UNIT 4 :SHORT-TERM FINANCING

Concept and importance of short-term financing; Sources of short-term financing: Accruals, trade credit, bank loan and commercial paper; Computation of cost of trade and bank loan.

UNIT 5 :LONG-TERM FINANCING

Teaching Hours Debt: concept, features and types; Preferred stock: concept, features and limitations; Common stock: concept, features and types; Rights and privileges of common stock holders; Retained earnings: concept and importance; Concept of factors affecting capital structure; Computation of book value of equity and debt- equity ratios; Computation of costs of issuing securities.

UNIT 6 :COST OF CAPITAL

Concept of cost of capital; Computation of specific costs: debt, preferred stock, and common stock.

UNIT 7 : INVESTMENT IN FIXED ASSETS

Concept importance and features of investment decision; Concept of opportunity cost; Concept of net cash flow and present value; Types of investment proposals; Steps involved in the evaluation of an investment; Computation of pay back period, net present value and profitability index of independent projects.

UNIT 8 :BASICS OF WORKING CAPITAL

Concept, types, importance and determinates of working capital; Gross Working Capital and Net Working Capital; Concepts and computation of cash conversion cycle; Determinants of working capital.

UNIT 9 : MANAGING CURRENT ASSETS

Cash and marketable securities: concept and motive for holding cash, concept of inflows and outflows, concept and importance of cash budget, preparation of cash budget.

Receivables: Concept and importance of receivables, concept of average receivable and days sales outstanding (DSO), terms of credit sales, credit standards and collection policies and procedures, computation of average receivable & DSO.

Inventory: Concept of raw materials, work-in-process and finished goods, need to hold inventories, objective of inventory management, concept of carrying and ordering costs, total inventory costs, reorder point and safety stock, determining EOQ (formula and tabular approach).

UNIT 10: DIVIDEND

Introduction and forms of dividends; dividend payment procedure and factors influencing dividend decision; constraints oh paying dividends.

UNIT 11 : MULTINATIONAL FINANCE

Multinational corporations; Multinational versus domestic financial management; Exchange rates, concept of cross rate; Trading in foreign exchange: concepts of spot rates and future rates.

INSTRUCTIONAL TECHNIQUES

- Lectures
- Demonstration
- Discussion
- Group work
- Project Work
- Presentation
- independent

ASSESSMENT TECHNIQUES

Written Examination 100 (100%) !

Evaluation Scheme

Units	Title	Number of Questions			Marks Allocated		
		TH.	Pr.	Tot.	Th.	Pr.	Tot.

1	Overview of Corporate finance	1		1	5		5
2	Business and Financial Environment	1		1	5		5
3	Financial Statements and Cas flows			1			10
4	Short term Financing		1	1		10	10
5	Long term Financing	1	1	2	5	5	10
6	Cost of Capital		1	1		5	5
7	Investment in Fixed Assets		1	1		10	10
8	Basic of Working Capital			1			10
9	Managing Current Assets	1	2	3	5	15	20
10	Dividend	1		1	5		5
11	Multinational Finance			1			10
	Total						100

NOTE :

1. Questions may combine theory and computational problems from Units 2, 5, and 8
2. 14 questions are asked in total, out of them 8 theory questions carrying 45 marks and 6 computational questions carrying 55 marks.

Reference books:

1. Brigham, Eugen F., *Fundamentals of Financial Management*: The Dryden Press, Orlando.
2. Manandhar, K.D., et.al. *Corporate Finance*, Januka Publication, Kathmandu.
3. Pandey I.M., *Elements of Finance*; Bikash Publication. New Delhi.
4. Paudel, Rajan B. et.al. *Fundamental of Corporate Finance*: Asmita Publication. Kathmandu.
5. Manadhar, K.D., et,al. *Fundamental of Financial Management*: Khanal Books & Stationary, Kathmandu.

6. Paudel, Rajan B. et.al, *Fundamental of Financial Management*: Asmita Books & Publishers Kathmandu.
7. Shrestha, Prakash, et.al, *Fundamental Principals of Financial Management:* Taleju Prakashan, Kathmandu.
8. Vanhorne, James C. & Wachowiz, Jr. John. *Fundamental Principals of Financial Management*; Prentice Hall of -India, Ride. New Delhi.
9. Weston, Bisleg & Brigham. *Essential Managerial Finance*: Dryden Press, New York.
10. Pradhan, Radheshyam & Kathiwada Rudra Mani. *Bitta Byabasthapan*: Buddha Academic Enterprises Pvt. Ltd. Educational Publishers & Distributers Kathmandu.
11. Joshi, Padam Raj, Elements of Finance-XII, Asmita Books Publication Ktm

CO-OPERATIVE MANAGEMENT
Grade: XII

Full marks: 100
Teaching hours: 150

I. INTRODUCTION.

This course is an extension of co-operative management -1. The primary focus of this course is to acquaint the students with necessary management skills required to operate co-operative organizations successfully.

II. General Objectives

The general objectives of this course are to:

(a) provide knowledge on the principles. and practices of Co-operative Management;
(b) impart knowledge on functional areas of Co-operative Management; and
(c) enable the students to apply the acquired knowledge and skills in Cooperative Management

III. SPECIFIC OBJECTIVES

The specific objectives of this course are to:

(a) familiarize students with Cooperative Management practices;
(b) provide knowledge on the status of Cooperative Education Training System in Nepal; and
(c) explore on the interrelationship of Cooperatives with other agencies pursuing similar objectives.

IV. TEACHING STRATEGIES:-

- Lecture
- Group discussion

Whenever and whatever applicable, the· lecture delivery should be substantiated by citing suitable examples of Nepal.

COURSE CONTENT

Unit 1: Co-operative Management **LH 1 0**

- Concept of Co-operative Management
- Need, Scope and Importance of Cooperatives Management
- Management Process: Planning, organizing, staffing, leading and controlling.

Unit 2: Planning and Decision Making **LH 15**

- Meaning and definition of Planning.
- Problems in planning

- Importance of planning
- Steps and types of Planning in cooperatives.
- Decision making: Meaning and Process in Co-operative organizations.
- Factors affecting Planning and decision making .

Unit 3: Organizing **LH 10**

- Meaning and Importance of Organizing.
- Organization structures of Co-operative.
- Authority, Responsibility and Accountability in Co-operative organizations
- Organizing Process: A brief introduction .

Unit 4: Staffing **LH 10**

- Meaning and Importance.
- Recruitment and selection of employees.
- Training and development .
- Rights, duties and responsibilities of employees of co-operative
- organizations.
- Code of conduct of employees of co-operative organizations

Unit 5: leadership, Motivation and Communication **LH 20+5**

- Meaning and importance of leadership
- Functions of effective leadership
- Participative leadership: meaning and its effectiveness .
- Meaning and Importance of motivation.
- Motivation techniques for the members and employees of cooperative organizations
- Meaning and Importance of communication .
- Elements of communication process
- Types of Communication
- Barriers to effective communication.
- Enhancing effective communication.

Unit 6: Controlling **LH 20**

- Meaning and purpose of controlling.
- Process and types of Control.
- Control techniques: budgetary and other methods (internal audit & observation)
- Role of Nepal Rastra Bank, co-operative department and district cooperative offices in monitoring and regulating cooperatives in Nepal.

Unit 7: Co-operative Training and Education **LH 5**

- Meaning and importance. of co-operative training and education.

- Co-operative Training Centre; Introduction, objectives and major activities .

Unit 8 Cooperative Accounting System (Theoretical aspects only) LH 20

- Introduction to Cooperative Accounting System .
- Double Entry System: concept, principles and its application .
- Methods of recording transaction:
- journal voucher
- subsidiary books and
- trial balance
- Major Financial Statements:
- income Statement and
- balance Sheet
- Meaning and importance of Auditir)g
- Internal Audit and Final Audit, pearls monitoring system
- Right, duties and responsibilities of Accounting Supervising Committee of co-operative.
- Budgeting practices its preparation and approval

Unit 9: Meetings LH 10

- Meaning and types of Meetings.
- Meeting Procedures: Annual, Board and Committee meetings in cooperative organizations.

Unit 10: Co-operative and Rural Development LH 5

- The role of co-operative institutions for rural development in Nepal with special reference to community empowerment and poverty reduction.

Unit 11 : Problems and Prospects of Co-operative in Nepal LH 20

- Problems encountered by co-operative.
- Social responsibilities
- Prospects of co-operative.
- Privatization vs. co-operative .

EVALUATION SCHEME:

Nature of Question	Total Questions to be asked	Required Number of Questions to be attempted	Weightage
A. Short Answer	10 (Ten)	8 (Eight)	8 for each
B. Long Answer	3 (Three)	2 (Two)	18 for each

Reference Books:.

1. Bedi, R.D., Theory, History and Practice of Co-operation, 1981.
2. Co-operative Act 2048 and R.ules 2049. (with amendments).

3. Hazela, T.N., Principles, Problems & Practices of Co-operation, 1996.
4. Shakya, S.R. Co-operative Movement in Nepal, 1984.
5. Koontz & Weihrich, Essentials of Management, N. Delhi, Tata McGraw Hill.
6. K.C., Fatta Bdr., Principles of Management (Nepali), Sukunda Pustak Bhawan, Kathmandu.
7. Kamat, S.S., New Dimensions of Co-operative Management, 2002.
8. Saradha, V., The Theory of Co-upeartion, 1986.
9. Publications of related agencies.

LIBRARY AND INFORMATION SCIENCE

Grade: XII

Full marks: 100
Teaching hours: 150

1. Introduction

The course of Library and Information Science designed for the Grade XI aims at providing the basic concepts of library and information science along with knowledge and skill about the basic functions of a library and information centre. This course for the Grade XII is designed to impart further knowledge specially on information and communication Technology (ICT) that has revolutionized the whole world of Library and Information Science.

2. General Objectives

The general objectives of this course are to provide the students with the basic knowledge & skill on the following topics.

i. Use and application of ICT in a library and information centre to provide computer based library and information services;
ii. Library users and their education;
iii. International numbering systems;
iv. Copy right and library legislation and policy; and
v. Role of Library associations.

3. Specific Objectives:

The specific objectives of this course are the enable the students to:

i. learn about the basic concepts and components of ICT;
ii. discuss the historical overview of computer application in libraries and information centers;
iii. acquire knowledge on computer hardware and software needed for library and information purpose;
iv. gain theoretical-and practical knowledge and skill in WINISIS for designing; creating and managing bibliographic databases and for providing modern library ahd information services;
v. learn about the E-resources, digital and virtual libraries;
vi. identify Library users needs and provide services accordingly;
vii. explain the need, functions and usefulness of various types of bibliographies and about the technique of their compilation;
viii. explain the use and importance of the like ISBN, ISSN and Bar code;
ix. acquire knowledge on system copy right at national and international level;
x. discuss the need and role of library/information legislation and policy for development of libraries and information centre in Nepal and

xi. learn about the history, role and functions of library associations at national, regional and international level for the healthy development of libraries and for the promotion of library profession.

Course Scheme :

Units	Title	Teaching hours	%of weigh tag
1	Information Technology	60	40
2	Library and Information Service	25	16.7
3	E. Resources	5	3.3
4	Digital & Virtual Libraries	5	3.3
5	Library Users & their Education	10	6.7
6	Bibliographic Services	15	10
7	International Numbering System	5	3.4
8	Copyright	5	3.4
9	Library Legislation and Policies	10	16.6
10	Library Association	10	6.6
	Total Teaching Hours	**150**	**100**

Unit 1: Information Technology

1.1 Computer : Introduction and Components
1.2 Operating System : Ms DOS, Windows, Word Processing WINSIS
1.3 Computer Application in Library, Library Automation; and Historical Overview
1.4 CCF and database design
1.5 Database Creation and Management
1.6 Practical on Database Creation and management using WINSIS

Unit 2: library and Information Services

2.1 Need and purpose of library and Information Services
2.2 Reference Service Tools Dictionaries, Encyclopedias, Almanac, Bibliographies, Biographies, Directories, year Books, Atlas
2.3 Currant Awareness service (CAS): Display of new arrivals and compilation and circulation of new arrival list.
2.4 Resource sharing and networking
2.5 Practical on Reference Service

Unit 3: Resources

3.1 E-Books
3.2 E-journals
3.3 CDROM
3.4 Databases

3.5 Websites, Homepages etc.

Unit 4: Digital & Virtual Libraries

4.1 Concepts of Digital and Virtual Libraries
4.2 Content of Digital Libraries
4.3 Difference between Digital & Virtual Libraries
4.4 Role and functions of Digital & Virtual Libraries.

Unit 5: Library Users & their Education

5.1 Library Tour and Orientation
5.2 Types of Library Users
5.3 Identification of user need and interest
5.4 Maintenance of Library environment

Unit 6: Bibliographic Services

6.1 Definition, Functions and usefulness of Bibliographies
6.2 Types of Bibliographies
6.3 Nepalese National Bibliography and National Union Catalogue
6.4 Practical on Compilation of Bibliographies

Unit 7: International Numbering System

7.1 ISBN
7.2 JSSN
7.3 Barcode

Unit 8: Copyright

8.1 Need and purpose of Copyright
8.2 Copyright Act and by Laws of Nepal
8.3 World Intellectual Property Organization

Unit 9: Library Legislation and policies

9.1 Need and purpose
9.2 Development of Library legislation and policies
9.3 Legal Provision and commission recommendation for the development of libraries in Nepal

Unit 10: Library Association

10.1 Role of Library Associations for the development of libraries and Library profession
10.2 NLA, TULSSA and School Library Association
10.3 Regional & International Library Association REFSALA, RSCAO, IFLA, and CONSAL.

VI. Instructional procedures

The method of instructions will mostly comprise of lecture, exploration demonstration, discussion, library-work, self-study, self-work and question-answer method.

VII. Assessment procedures-

Assessment of student: achievement in this course will be made on the basis of performance through class test at least two times and home assignment.

Question wise marks distribution-

- 3 long answer- questions = 3x10 = 30 marks 30
- 10 short answer- questions =10x7 = 70 marks 70

Total 100

References:

1. प्रतिलिपि अधिकार ऐन २०५९ र नियमावली २०६१ ।
2. Arma, William : Degital Libraries, New Delhi Ane Books 2005.
3. Jeevan, VKJ : Digital Libraries. New Delhi, ESS ESS Publications. 2003.
4. Krishna Kumar : Reference Service. ED 3 1966 Vikas, New delhi.
5. Kumar, P.S.G,: Fundamentals of Information Science 1998. B.R.Publishers, Delhi.
6. Mini-Micro CDS/ISIS : Manual and CDS/ISIS Pascal Manual 1989. UNESCO Paris Microsoft windows 88.2nd ed 1999.
7. Pedley, Paul : Copyright for Library and Information Service Profession Ed. 2. 2000, Library Association, London.
8. Walford, A.J. : Guide to reference books, Ed. 4 3v. 1980 Library Association, London.

GENERAL LAW
Grade: XII

Full Marks: 100
Teaching Hours: 150

I. Introduction

A student at the higher secondary level is expected to understand clearly and express with certainty about the basic knowledge of substantive law, procedural law and drafting of legal documents. Therefore, this course has been designed for Grade XII of the higher secondary level offering general law II as an elective subject, with a view to impart the students with required knowledge of substantive and procedural law as well as the required skill of drafting legal documents.

II. General Objectives

General Objectives of this Course are to:

- impart and equip the students with the basic knowledge of substantive law (both criminal and civil) and principles of procedural law;
- acquaint them with the general introduction of legal drafting;
- inculcate in them basic skills of preparing model of law,suit (complaint), FIR, charge sheet, model.of defence, preparation of models of documents such as deed of transfer of ownership, deed of mortgage in the sight of asset, loan deed, deed of residuary will probate and so on; and
- impart them basic knowledge about the major crimes, principles of criminal law, elements of crime, property law, family law and contract law, principles of procedural law, jurisdiction of courts and court proceedings.

III. Specific Objectives

At the end of completion of this course the students will be able to:

- differentiate substantive law from procedural law;
- define crime and rlescribe the elements and stages of crime; ·
- explain all the basic principles of criminal law; .
- discus.s the offence relating to for·gery of documents, fraud, coercion and existing law dealing with such crime in Nepal;
- state the difference between theft, cheating and looting;
- define homicide and write in detail all the relevant legal measures dealing with homicide low in Nepal;
- clarify the basic principles of procedural law;
- identify the constitutional and legal provision relating to jurisdiction courts and quasi-judicial bodies; and
- prepare models of law-suit (complaint) charge sheet and other types of contract papers and deeds;

IV. Course Scheme

Units	Title	Teaching Hrs	Marks
Part - A: Substantive law (Criminal and Civil law)		**65**	**40**
1	Introduction to Crime and Criminal Law	15	
2	Basic Principles of Criminal Law	10	
3	Certain Major Crimes	15	
4	Introduction to Civil Law	05	
5	Property Law, Family Law, Law of Contract	20	
Part - B: Procedural law		**60**	**40**
6	Introduction to Procedural Law	10	
7	Basic Principles of Procedural Law	15	
8	Jurisdiction of Courts and Quasi Judicial Bodies	15	
9	Introduction to Court Proceedings	20	
Part - C: General Introduction to legal Drafting		**25**	**20**
10	Court related Documents	10	
11	Private Documents	10	
12	Commercial Documents	05	

V. Course Content

Part - A: Substantive law (Criminal and Civil law)

40 marks

Teaching hours: 65

Unit - 1: Introduction to Crime and Criminal law **TH 15**

1.Concept and Nature of Criminal Law

2.Concept of Crime

3. Classification of Crime

4. Elements of Crime

a) Actus Reus: Act, Omission and the State of Affairs

b) Mens Rea: Intention, Recklessness, Negligence and Motive

5.Stages of Crime

a) Intention

b) Preparation

(d) Attempt

(e) Completion of Crime

Unit - 2: Basic Principles of Criminal Law **Teaching Hours: 10**

1. Ignorance of Law is no Excuse
2. Nullam crimen sine lege
3. Principles of double jeopardy

4. Crime dies with the Criminal
5. Principles of expost facto Law
6. Actus non facit reum nisi mens sit iea

Unit 3 : Certain Major Crimes **Teachingh hours 15**

1. Offence Against Document

(a) Forgery of document
(b) Forgery (Jalsaji)
(c) Coercion

2. Offence Against Property

(a) Theft
(b) Cheating
(c) Looting (Lootpit)

3. Offence against Person

(a) Homicide
(b) Assault (Kutpit)
(c) Trafficking of Human being
(d) Kidnapping

4. Cyber Crime

Unit 4: Introduction to Civil law **Teaching hours 05**

1. Concept of Civil Law

Unit- 5: Property Law, Family Law, Law of Contract **Teaching hrs 20**

1 . Property Law

(a) Law of Transaction (Lenden vyawahar)
(b) Law of Gift and Will Deed of Donation (Dan Bakas)

2. Family Law

(a) Law of Marriage
(b) Law of Partition (Angsha Banda)
(c) Law of Succession and Inheritance (Aputali)
(d) Law of Adoption (Dharmaputra) ·
(e) Law of Women's Property (Shtri Dhan)

3. Law of Contact

(a) Meaning and Elements of Contract
(b) Contract and Agreement
(c) Kinds of Contract

i. Valid Contract
ii. Void Contract
iii. Voidable Contract

iv. Quasi-contact

Part - B: Procedural Law

Marks: 40

Teachingh hours: 60

Unit 6: Introduction to Procedural Law **Teaching hours: 10**

1. Concept and Natu're of Procedural Law
2. General, Summary and Special Procedure

Unit 7: Basic Principles of Procedural Law **Teaching hours: 15**

1. Locus Standi (Hak daiya)
2. Limitation (Hadhmyadh)
3. Res-judicata (Prangnyaya)
4. Ratio-decidendi and Obiter Dicta (Nirnayadhar Ra Prasangik Kathan)
5. Principles of Natural Justice (Prakritik Nyaya)

Unit 8: Jurisdiction of Courts and Quasi-Judicial Bodies **Teaching hrs 15**

1. Meaning and nature of jurisdiction
2. Jurisdiction of Court in Nepal

(a) District Court's Jurisdiction
(b) Appellate Courfs Jurisdiction
(c) Supreme Court's Jurisdiction

3. Meaning, Nature, Functions and Procedures of Quasi-Judicial Bodies

Unit 9: Introduction to Court Proceedings **Teaching Hours: 20**

1. Testing the validity Of Deeds (काजग जाँच)
2. Court Fee (कोर्ट फी)
3. Complaint and its requirements
4. Notice to the Defendant (Summons)
5. protection and its requirements
6. Attorney
7. Evidence (meaning and kinds)
8. Statement of Parties and Witness
9. Postponement
10. Withdrawal of case
11. Compromise of case
12. Judgement (meaning, kinds and execution)

Part - C: General Introduction to Legal Drafting

Marks: 20

Teaching Hours: 25

Unit 1 0 : Court related Documents **Teachingh hours 25**

1. Model of Law-suit (complaint)
2. Model of F .I.R.
3. Model of Charge-sheet
4. Model of Defence I Reply (Rejoinder)
5. Power of Attorney (वारिसनामा)
6. Authorized Power of Attorney, (अधिकृत वारिसनामा)
7. Application (Petition) (निवेदन)
8. Probate (Letter of Agreement) (मंजुरनामा)

Unit 11: Private Documents Teaching Hours :10

1. Usufruct Mortgage Deed (भोक बन्धकी तमसुक)
2. A Deed of Mortgage in the sight of Assets (दृष्टि बन्धकी तमसुक)
3. Re-Mortgage Deed (लख बन्धकी तमसुक)
4. Deed of Bail (Hostage) (जमानी लिखत)
5. Deed of Will (बकसपत्र लिखत)
6. Receipt (भर्पाइ)
7. Loan Deed (कपाली तमसुक)

Unit - 12: Commercial Documents **Teaching Hours:05**

1. Contract Paper (करारनामा)
2. Act of Paying Advance (बैनाबट्टा)
3. Exchange Deed (सट्टा पट्टा लिखत)
4. Sale Deed (राजीनामा)

VI. Instructional Materials:

- Reference books
- Constitution and related Acts and Rules of Nepal
- Case Laws
- Journals and other relevant available Materials

VII. Instructional Techniques

- Lecture
- Problem solving
- Discussion
- Group Works
- Project Works
- Court and field observation

VIII. Evaluation of Scheme

Students' level of understanding and knowledge about the subject matter will be evaluated on the basis of written examination with duration of three hours as mentioned below:

S.N.	Nature of Questions	Total question to be asked	Required no of answers to be attempted	weightage for each
1	Long answer questions	4	3	10x3=30
2	Short answer questions	6	5	8x5=40
3	Very Short answer questions (Notes)	7	6	5x6=30
	Total	17	14	100

References

1. The Interim Constitution of Nepal,2063(2007).
2. Muluki Ain (Country Code) 2020 B.S.
3. Acharya, Madhav Prasad and Rajit Bhakta Pradhananga, (2049 B.S.), **फौजदारी कानुन र फौजदारी न्याय (Criminal law and Criminal Justice)**, Ratna Pustak Bhandar, Kathmandu, Nepal.
4. Khanal, Rewati Raman, (2055). **कानुनी लिखतका मस्यौदा** (Legal Drafting), Saja Prakashan.
5. Lamsal, Narayan Prasad, (2050 B.S.). **पारिवारीक कानुन,** Ratna Pustak Bhandar, Kathmandu, Nepal.
6. Neupane, G.N., (latest edition) **कार्यविधि कानुन** (Procedural Law), Ratna Pustak Bhandar, Kathmandu, Nepal.
7. Pradhananga, Rajit Bhakta, **नेपाली फौजदारी कानुनको सामान्य परिचय,** Ratna Pustak Bhandar, Kathmandu, Nepal.
8. Pradhananga, Rajit Bhakta Prof. Dr. (2061), **प्रमाण कानुनको सामान्य परिचय,** Brikuti Pustak Prakashan.
9. ..... And Megh Raj et. Al (2061), **प्रमाण कानुको सामान्य परिचय,** Brikuti Pustak Prakashan.
10. Shrestha, G.B, **Outline of Procedural Law**, Pairabi Prakashan, Kathmandu, Nepal.
11. Shrestha, Gyaindra Bahadur, **पारिवारिक कानुन** Pairabi Prakashan, Kathmandu, Nepal.
12. ..... (2059), **कानुनी लिखतका मस्यौदा** (legal Drafting), Pairabi Prakashan.
13. Thapaliya, Shanta (Family Law) **पारिवारिक कानुन ।**

Code-

Human Value Education

Grade XII

Teaching Hours 150

Full Marks 100(75+25)

1. Course description

This course is designed for Grade Xll students by the Higher Secondary Education Board of Nepal offering it as an elective subject. It has both theoretical and practical parts. It consists of eight units containing human values and its various facets like human faculties and endowments, human personality, personal, transformation, blossoming human excellence promotion of human values in school/community, social work, project management, project work and report writing.

2. General Objectives

The course provides the students the knowledge of human values and insights of it various facets to help them live in human values.

3. Specific Objectives

On completion of this course the students will be able to:

a) explain human faculties and endowments
b) understand human personality
c) explain nature of personal transfonnation and its evaluations
d) learn some skills with regard to blossoming of human excellence
e) propagate human values in school/ community
f) explain the concept of social work, social security, and social welfare
g) undertake a project work and write a report on it

Contents

Unit l: Human Values: Faculties and Endowment
Unit 2: Human Personality
Unit3: Personal Transformations
Unit 4: Blossoming human Excellence
Unit 5: Propagation of Human Values in school/ Community
Unit 6: Social work
Unit 7: Project Management
Unit 8: Project Work and Report Writing

Teaching Methods

- Silent sitting
- Prayer/ quotations
- Stmy telling/ lecture
- Group singing
- Group activities such as: Seminar, Role Play/ simulation, Demonstration, Project work Group Work, Field Visit/ Observation, Pair Work, Report Writing etc.

Instructional Materials

Books, Journals, Magazines

Pictures, Charts

Multimedia and audio-visual aids

Evaluation Scheme

Student' level of understanding will be evaluated on the bases of written Examinations of 75 marks with duration of two hours fifteen minutes and practical Examinations of 25 marks as mentioned below:

Written Evaluation

S.N.	Nature of Questions	Total question to be asked	Required no of answers to be attempted	weightage for each
1	Long answer questions	4	3	3x8=24
2	Short answer questions	10	9	9x4=36
3	Very Short answer questions (Notes)	10	10	10x1.5=15
	Total	24	22	75

Practical Evaluation

Practical Evaluation will be based on the following:

S.N.	**Nature of Evaluation**	**Weightage**
1	Project work	10
2	Teacher's evaluation of student' Personality development	10
3	Parents' evaluation of student' Personality development	5
	Total	25

Personality development will be evaluated on two areas: **behavior and service.**

Every student has his/ her own talents and goodness. This evaluation is to develop students' self awareness and help them to bring out their best from within by understanding the areas in which they lack and need improvement.

They will be evaluated in 5 point scale

5=excellent, 4=very good 3= good 2= needs to improve

1= lacking

Behaviour - Honest, truthful, silent, polite, clean, cooperative, disciplined

Service: Willingness to participate in service activities, initiative, good leader, good follower silent worker in group activities.

Student's evaluation in persenality development:

Behavior Grading: 1 2 3 4 5

Service Grading 1 2 3 4 5

Fine Arts: Painting II

Grade: XII

code No.: 626 Full Marks: 100

Teaching Hours: 150

I. Introduction

This Course is designed for the grade XII students offering Painting as an elective subject. This Course is designed as a link between the Secondary level of painting and the bachelors' level of painting at the universities. It has two parts: theoretical (25%) and practical (75%). The students are required to get through both the parts separately. The purpose of the course is to produce human resources with basic skills in the field of painting. The students undertake core studio practice units and core theoretical units throughout the course.

II. General Objectives

The General objectives of the course are:

1. to provide the students with the basic skills of drawing and painting, and
2. to acquaint them with the basic theory of painting.

III. Specific Objectives

On completion of the course, the students will be able:

1. to practice still-life study
2. to practice head study of male and female from antique mannequins,
3. to explain the basic fundamentals of painting, and
4. to explain the general methods and materials ug;ed in painting

IV. Course Scheme

Course Topics	Narjis Distribution		Teaching hours		Minimum no. of works to be submitted by each student
	Theory	Practical	Theory	Practical	

1. Drawing					
1.1 Still-life study in colour				13 hrs	3
1.2 Head study of male and female from antique mannequins in pencil				20 hrs	5
1.3 Head study of male and female from antique mannequins in water colour				20 hrs	5
2. Composition					
2.1 Multi figures composition with the concept of socio-culture life in monochrome				16 hrs	4
2.2 Multi figures composition with the concept of socio-culture life in water colour				16 hrs	4
2.3 Copy from master artists' works/Nepali classic works in water colour/poster colour				28 hrs	3
3. Basic Theory of painting					
3.1 Fundamentals of painting					
3.2 Methods and materials used in painting					
Total	25	75	37 Hrs		
	25	**75**	**37 Hrs**	**113 hrs**	24

V. Course Contents

1. Drawing

1.1 Still-life study in colour

Size: Imperial Quarter (10"x15")

1.2. Head study of male and female from antique mannequins in pencil.

size: Imperial Quarter (10"x15")

1.3. Head study of male and female from antique mannequins in colour

Size: Imperial Quarter (10"x15")

Medium: pencil, charcoal, pastels and water colour

2. Composition

2.1. Multi figures composition with the concept of socio-culture life in monochrome

Size: Imperial Half (15"x20")

2.2. Multi figures composition with the concept of socio-culture life in water colour

Size: Imperial Half (15"x20")

2.3. Copy from master artists' works/Nepali classic works in water colour/poster colour

Size: Imperial Half (15"x20")

2.4. Outdoor sketches

Each student is required to submit minimum of 50 pieces of A4 size outdoor sketches at the end of the academic year.

Medium: Pencil, pastels, water colour and poster colour

3. Basic Theory of Painting

3.1 Fundamentals of painting

- Art as a language of feelings
- The six Limbs (Shadariga) of the Indian painting
- Symbolism in painting

3.2 Methods and materials used in painting

- Printmaking: woodcut, engraving, etching, mazzotint, aquatint, drypoint, lithography, screen-Printing digital prints ,
- Collage: decoupage, photomontage, d(gital collage
- Mixed media
- Ceramic

VI. Lab and Studio Facilities

there should be the following labs and studios equiped with the following materials and equipment in each of the schools offering painting course to their students:

1. Drawing lab
   - Drawing board for each student
   - Object stand
   - Model stand
   - Donkey for each student
   - Draperies
   - Spot lights
   - Objects: basic shapes, cast fruits and commonly used objects
   - Antique mannequins
   - Head (cast)
   - Bust (cast)
   - Torso (cast)
2. Painting Lab
   - Drawing board for each student
   - Model stand
   - Spot lights
   - Object stand
   - Draperies

VII. Instructional Methods

1. Orientation
2. Demonstration
3. Individual practice
4. Feed forwarding
5. Group discussion/comments

VIII. Evaluation Scheme

Practical: 75

Theory: 25

1. Practical

Course Topic	**Full marks**	**Pass marks**	**Marks Distribution**	
			Class Performance	**Yearly Exam**
1 Drawing	35	14	14	14
2 Composition	40	16	16	24

2. Basic Theory of painting

Long Answer questions		**Short answer question**		**Marks Distribution**	
Questions to be asked	Answers to be written	Questions to be asked	Answers to be written	Long Answer questions	Short answer question
2	1	4	3	10x1=10	3x5=15

IX. Prescribed Texts

Course materials and books related to the theory subjects are to be written integrating every topic of the course for which experts could be assigned after the approval of the course from the HSEB authority

X. Reference Books

1. (1996) Methodologies of Art: An introduction, New York: Harper Collins.
2. Barasch, Moshe (1998). Theories of Art: From Plato to Winckelmann. New York: New York University Press.
3. Stephenson, Jonathan (1989). The Materials and Technique of Painting. New York: Watson-Guptill.
4. Honour, Hugh and Fleming, John (1984), The Visual Arts, A history, New Jersy: Prentice Hall, Inc.
5. Philipson and Gugel, Paul J. (1980) Aesthetic Today. New York: Times Mirror.

Fine Arts: Sculpture II
Grade: XII

Code No.: 624 Full Marks: 100
Teaching Hours: 150

I. Introduction

This Course is designed for grade XII student offering Sculpture as an elective subject. This course is designed as a link between the secondary level of painting and the bachelors' level of painting at the universities. It has two Parts theoritical (25%) and Practical (75%). The students are required to get through both the parts separately. The purpose of the course is to produce human resources with basic skills in the field of sculpture. The student undertake core studio practice units and core theoretical units throughout the course.

II. General Objectives

The General objectives of the course are:

1. to provide students with the basic skills of clay modeling, relief sculpture, and
2. to acquaint them with basic theory of painting.

III. Specific Objectives

on completion of the course, the students will be able:

1. to mould general objects used in daily life,
2. to make relief figures,
3. to mould human head, and
4. to explain the basic fundamentals of sculpture and general methods and materials used in sculpture.

IV. Course Scheme

Course Topics	Narjis Distribution		Teaching hours		Minimum no. of works to be submitted by each student
	Theory	Practical	Theory	Practical	
1. Object Modeling					
1.1 Object study in clay				23 hrs	4
1.2 Head study of male and female from antique mannequins in clay				30 hrs	5
2. Composition					
2.1 Relief composition in clay				24 hrs	3
2.2 Casting relief work in plaster of Paris				12 hrs	1
2.3 Human figure in clay					
3. Basic Theory of Sculpture					
3.1 Fundamentals of Sculpture				24 hrs	3

3.2 Methods and materials used in sculpture					
Total	**25**		**75 hrs**		

V. Course Contents

1. Object Modeling
    1.1 Object study in clay
        Size: minimum 6" height
    1.2 Head study of male and female from antique mannequins in clay
        Size: minimum 6" height
    1.3 Casting relief work in plaster of Paris
    Size: minimum 6" height

Medium: Clay and plaster of Paris

2. Composition
    2.1. Relief composition in clay
        Size: Minimum 12"x18"
    2.2 Human figures in clay
        Size: Minimum 12"x18"

3. Basic Theory of Sculpture
    3.1 Fundamentals, methods and materials used in sculpture
    - Wood: nature and types of wood, its growth an process of seasoning use of various tools and equipments, blocking out toughening and hollowing surface treatment and finishing treatment for preservation
    - Mixed methods: new approaches
    - Stone: nature and types of stone, difference between sand and stones, marble and granite formation of stones, limitations, and their strength, use of various tools and equipments methods of polishing
    - Ceramics/pottery: history, techniques, clay bodies, firing and glazes Kilns

VI. Lab and Studio Facilities

There should be the following labs and studios equipped with the following materials and equipments in each of the schools offering Sculpture course to their students:

1. Clay Preparatory lab
    - Clay Clay -Preparatory tank
    - Hammer -Mallet

2. Clay modeling lab
    - Basic shapes, cast fruits and commonly used objects
    - Antique mannequins -Head (cast)
    - Bust (cast) -Torso (cast)
    - Stand for each student - Revolving portrait stand for each student

– Revolving board for each student

VII. Instructional methods

1. Orientation 2. Demonstration
3. Individual practice 4. Feed forwarding
5. Group discussion/comments

VIII. Evaluation Scheme

Practical : 75 Theory :25

1. Practical

Course Topic	**Full marks**	**Pass marks**	**Marks Distribution**	
			Class Performance	**Yearly Exam**
1 Object Modeling	35	14	14	21
2 Composition	40	16	16	24

2. Basic Theory of painting

Long Answer questions		**Short answer question**		**Marks Distribution**	
Questions to be asked	Answers to be written	Questions to be asked	Answers to be written	Long Answer questions	Short answer question
2	1	4	3	10x1=10	3x5=15

IX. Prescribed texts

Course materials and books related to the theorize subjects are to be written integrating every topic of the course for which experts could be assigned after approval of the course from the HSEB authorize

X. Reference books

1. मैनाली, लय वि.सं. २०३१ । मूर्तिका माध्यम, विधा र तत्वहरू ।
2. (1996) Methodologies of Art: an introduction. New York: Harper collins.
3. Barasch, Moshe. (1998) theories of Art: From Plato to winckelmann. New york: New York University Press.
4. (1990) modern Theories of Art I: from Wincklemann to Baudelaire, New York: New York University Press.

Fine Arts: Applied Arts II
Grade: XII

Code No.: 630 Full Marks: 100
Teaching Hours: 150

I. Introduction

Applied Arts is basically a subject for communication which assumes various from and an applied artists know-how to communicate through media which are subject to technical, economic and social control. A graphic designer therefore has to develop a temperament which would enable him to subordinate his individuality to a collective effort. The new technologies of photography, filmstelevision, printing and use of computer as visual-problem solver have all opened up endless avenues.

This course is designed for grade XII students offering Applied Arts as and elective subject. This course is designed as a link between the secondary level of painting and the bachelors' level of painting at the university. It has two parts: theoretical (25%) and practical (75%). The students are required to get through both the parts separately. The purpose of the course is to produce human resources with basic skills in the field of Applied Arts the students undertake core studio practice units and core theoretical units throughout the course.

II. General Objectives

The General objectives of the course are:

1. to provide student with the basic creative and technical ability,
2. to provide them with the basic skills of drawing graphic figures,
3. to acquaint them with the fundamentals of applied art,
4. to acquaint them with the basic knowledge of the advertising, and
5. to acquaint them with the general methods and materials and fast changing technology in the field of applied art.

III. Specific Objectives

On completion of the course, the students will be able:

1. to draw graphic image/illustrations of objects, animals and human figures,
2. to practice poster design,
3. to practice lay-out design of print materials,
4. to explain the fundamentals of applied art, and
5. to explain the general methods and materials used in applied art.

IV. Course Scheme

Course Topics	Narjis Distribution		Teaching hours		Minimum no. of works to be submitted by each student
	Theory	Practical	Theory	Practical	
1. Drawing 1.1 Drawing graphic image/ illustration of objects in pen					

and ink and poster colour				20 hrs	4
1.2 Drawing graphic image/ illustration of animals in pen and ink and poster colour				20 hrs	4
1.3 Drawing graphic image/ illustration of human figure in pen and ink and poster colour				20 hrs	4
2. Design					
2.1 Concept of poster design in poster colour					
2.2 Concept of lay-out design of print materials in pencil/ pen and ink					
3. Basic Theory of Applied Art				26 hrs	4
3.1 Principles of design					
3.2 Introduction to advertising design				27 hrs	5
3.3 Introduction to print production	25				
Total	**25**	**75**		**113 hrs**	**21**

V. Course Contents

1. Drawing

1.1 Drawing graphic image/illustration of objects in pen and ink and poster colour

Size: imperial Quarter (10"x15")

1.2. drawing graphic image/illustration of animals in pen and ink and poster colour

Size: imperial Quarter (10"x15")

1.3. Drawing graphic image/illustration of human figures in pen and ink and poster colour

Size: imperial Quarter (10"x15")

2. Design

2.1. Concept of poster design in poster colour

Size : Imperial Half (1S"x20")

2.2. Concept of lay-out design of print materials in pencil/pen and ink

Size : Imperial Half (15"x20")

2.3. Drawing graphic image/Illustration e.g. still-life, animals and human figures in pen and ink and colour a

Size : Imperial Half (1S"x20") l

Medium: pencil, pen and ink and poster colour

3. Basic Theory of Applied Art

3.1 Principles of Design

3.2 Introduction of advertising design

VI. Lab and Studio Facilities

There should be the following labs and studios equipped with the following material and equipment in each of the school offering Applied art course to their students:

1. Drawing and Design studio
   - Drawing board for each student
   - Light box
2. Instructional Strategies
   1. Orientation
   2. Demonstration
   3. Individual practice
   4. Feed forwarding
   5. Group discussion/comments

VIII. Evaluation Scheme

Practical: 75

Theory: 25

1. Practical

Course Topic	**Full marks**	**Pass marks**	**Marks Distribution**	
			Class Performance	**Yearly Exam**
1 Object Modeling	35	14	14	21
2 Composition	40	16	16	24

2. Basic Theory of painting

Long Answer questions		**Short answer question**		**Marks Distribution**	
Questions to be asked	Answers to be written	Questions to be asked	Answers to be written	Long Answer questions	Short answer question
2	1	4	3	10x1=10	3x5=15

IX. Prescribed texts

Course materials and books related to the theory subjects are to be written integrating every topics of the course for which experts could be assigned after approval of the course from the HSEB authority.

X. Reference books .

1. Campbell, Alastair. (2002), The New Designer's Hand book. Little, Brown and Co.: London.
2. Maurelho, S.Ralph (First published in 1952 but the latest edition is recommended.) Commercial Art Techniques., New York; Tundor Publishing company
3. Dailey, Terence, Illustration and Design. QED Publishing Ltd., London.
4. Shilpanjali, An annual publication of Sir J.J.Institute of Applied Art, Bombay, India.
5. Type books: Lettraset (Latest edition) Mecanorma (Latest edition)
6. Croy, Peter. (1990). Graphic Design and Reproduction Techniques. New York; English edition.

ELECTIVE IV

BUSINESS MATHEMATICS
Grade: XII

Full Marks : 100
Pass Marks : 35
Teaching hours: 150

I. Introduction

The syllabus of Business Mathematics for Grade XII is designed to equip the students with mathematical and statistical concepts applicable in business and economics. The course further aims at providing the students with a base for higher education in management, economics and other business related fields.

II. General Objectives

The general objectives of this course are:

i. to familiarise the students with finite mathematics and business mathematics;
ii. to acquaint the students with necessary mathematical and statistical tools to be used in decision making in business and economics; and
iii. to provide a basic learning resource for further study of quantitative methods.

III. Specific Objectives

Upon completion of this course, the students will be able to:

(i) discuss finite mathematics relevant to the concept of system as group of related entities;
(ii) identify the arrangement of number;
(iii) explain the Co-ordinate Geometry;
(iv) use rudimentary concept of logarithms in numerical simplification;
(v) apply differential and integral calculus in studying the dynamics of system behaviour;
(vi) describe the concepts basic to linear programming problem (LPP) and apply them in optimizing situations in business;
(vii) use basic tools of statistics in business and economics;
(viii) identify the basic concepts of probability; and
(ix) identify and solve the problem of business and finance ..

IV. Course Scheme:

Units	Title	Teaching hours	% of weightage
1.	Number System	7	4.67
2.	Sets and Relations	7	4.67
3.	Sequence and Series	7	4.67
4.	Permutation and Combination	5	3.33
5.	Matrices and Determinants	12	8
6.	Co-ordinate Geometry	9	6

7.	Logarithms	6	4
8.	Functions, Limit and Continuity	10	6.66
9.	Differentiation	10	6.66
10.	Application of Derivatives	6	4
11.	Integration	9	6
12.	Linear Programming Problem	7	4.67
13.	Measures of Dispersion	12	8
14.	Probability	6	4
15.	Mathematics of Gain and Loss	15	10
16.	Mathematics of Finance	22	14.67
	Total Teaching Hours	**150**	**100**

V. Course Contents

Unit 1: Number System **7 teaching hours**

- Review of system of Natural numbers, Integers, Rational and Irrational numbers, Real numbers.
- Concept of inequalities and their properties.
- Absolute values and their properties (verification only)
- Complex numbers and their properties (verification only)

Unit 2: Sets and Relations **7 teaching hours**

- Review of sets; Euler-Venn diagram and operation on sets.
- Properties of algebra of sets and their verification only (without theoretical proof)
- Number of elements in a set and the problems relating up to 3 sets
- Cartesian product of two sets, Relation and function, Domain and range (Excluding types of function, inverse and composite functions)

Unit 3: Sequence and Series **7 Teaching hours**

- Difference between sequence, series and progression
- Finite and infinite series
- Types of progression (A.P., G.P. and H.P.)
- nth term of an A.P., sum of the n terms of the series in A.P., Arithmetic means.
- nth term of G.P., sum of the n terms of the series in G.P., sum of an infinite series in G.P. Geometric means, sum of the n terms of the series reducible to G.P. of the type 4 + 44 + 444 + ... (excluding sum to n terms of the type 1 + 4 + 13 + 40 + ...)

Unit 4: Permutation and Combination **5 teaching hours**

- Basic principles of counting
- Meaning of nPr
- Permutation of things when some are alike (simple cases only).
- Meaning of nCr, problems relating to combination (simple cases only) (Avoid the problems relating to restricted permutation like "two things arranged together", not arranged together).

Unit 5: Matrices and Determinants **12 teaching hours**

- Matrix and its size
- Types of matrices
- Algebra of matrices
- Determinants and its evaluation up to third order
- Properties of determinants. (without proof)
- Solving simultaneous equations of two and three variables by using Cramer's rule, solution of verbal problems of two variables only.

Unit 6: Co-ordinate Geometry **9 teaching hours**

- Rectangular coordinates system
- Slope of a straight line joining two points.
- Distance between two points.
- Coordinates of a point dividing a line joining two points in a given ratio.
- Locus and equation
- Equation of a straight line in slope-intercept form, double intercepts form, point slope form and two points form.
- The point of intersection of two straight lines.

Unit 7: Logarithms **6 teaching hours**

- Logarithm and its basic properties, change of base.
- Common logarithm table, use of common logarithm table in finding logarithm of a number.
- Antilog table, finding antilog of logarithm of a number.

Unit 8: Functions, Limit and Continuity **10 teaching hours**

- Constant and variable
- Definition and notation of function
- Types of function and its graphic representation
- Computation of functional values
- Application of functions to Commerce and Economics
- An intuitive idea of Limit of a function
- Basic rules of Limit; Limit at infinity
- Concepts of continuity and discontinuity

(Note: Algebraic only)

Unit 9: Differentiation **10 teaching hours**

- Definition and notation of derivatives
- Geometrical meaning of derivatives
- Differentiation of a function by first principle of algebraic functions only.
- Methods of differentiation
- Differentiation of implicit function and parametric function
- Second order derivatives

(Note: Derivative of algebraic, logarithmic and exponential functions only)

Unit 10: Application of Derivatives 6 teaching hours

- Application of derivative to Commerce and Economics
- Increasing and decreasing function; point of inflection
- Maximum and minimum of a function and its application. (Aigebraic only)

Unit 11: Integration 9 teaching hours

- Integration as an inverse process of Differentiation
- Methods of Integration by substitution and by parts
- Concept of Definite Integral
- Methods of evaluating Definite Integrals
- Application of integration to Commerce and Economics

(Note: Antiderivative of algebraic, logarithmic and exponential functions only)

Unit 12: Linear Programming Problem 7 teaching hours

- Linear inequality in two variables and its graphical solution
- System of linear inequalities in two variables and its graphical solution
- Mea.nin.g of L.P.P. and its importance.
- Constraints, Objective function, Optimization
- Mathematical Formulation of L.P.P.
- Graphic method of solving L.P.P.

Unit 13: Measures of Dispersion 12 teaching hours

- Review of measures of Central Tendency
- Range, Quartile deviation, Mean deviation and Standard deviation and their relative measures.

Unit 14: Probability 6 teaching hours

- Concepts of Probability
- Addition and Multiplication theorems without proof (Mutually exclusive and independent cases with simple problems only)

Unit 15: Mathematics of Gain and Loss 15 teaching hours

- Ratio and Proportion
- Profit and Loss
- Partnership

Unit 16: Mathematics of Finance 22 teaching hours

- Money and Exchange (Chain method)
- Present worth and Discount

– Compound interest and Compound Depreciation
– Annuity and its terminology:

(a) Immediate Annuity and computation of Amount, Present value only

(b) Annuity due and computation of Amount, Present value only (excluding deferred cases)

Evaluation Scheme

Units	Title	Shor answer question	Marks	Long answer question	Marks	Total Marks
1.	Number System	1	1x3=3	-	-	3
2.	Sets and Relations	1	1x3=3			3
3.	Sequence and Series	2	2x3=6	-	-	6
4.	Permutation and Combination	1	1x3=3	-	-	3
5.	Matrices and Determinants	1	1x3=3	1	1x5=5	8
6.	Co-ordinate Geometry	2	2x3=6	-	-	6
7.	Logarithms	1	1x3=3	-	-	3
8.	Functions, Limit and Continuity	2	2x3=6	-	-	6
9.	Differentiation	1	1x3=3	1	1x5=5	8
10.	Application of Derivatives	-	-	1	1x5=5	5
11.	Integration	2	2x3=6	-	-	6
12.	Linear Programming Problem	-	-	1	1x5=5	5
13.	Measures of Dispersion	1	1x3=3	1	1x5=5	8
14.	Probability	1	1x3=3	-	-	3
15.	Mathematics of Gain and Loss	2	2x3=6	1	1x5=5	11
16.	Mathematics of Finance	2	2x3=6	2	2x5=10	16
	Total	**20**	**60**	**8**	**40**	**100**

Reference books:

1. G. C., Phan Bahadur, et.al, Business Mathematics-XII, Asmita Pustak Prakashan, Ktm.
2. Bhattarai, Hom Nath et.al., Business Mathematics-XII Vidhyarthi Pustak Bhandar, ktm
3. Sthapit, Azaya Bikram et.al., Fundamentals of BusinessMathematics-XII, Buddha Prakashan, ktm
4. Parajuli, Mr. K.K et.al., Business Mathematics-XII, National Books Centre, Ktm
5. Awasthi, Mr. Ramesh Prasad et.al., Business Mathematics-XII, Unique Education Publication Pvt. Ltd, ktm
6. Shrestha, Shree Prakash et.al, Foundations of Business Mathematics-XII, Benchmark Education Support Pvt. Ltd.
7. Chaudhary, A.K., Business Mathematics-XII, Bhundipuran Prakashan, Ktm

MARKETING
Grade: XII

Full Marks: 100 (80T+20P)
Teaching Hours: 150 (120T+30P)

I. Introduction

In recent years, marketing has become essence in all the sectors of business like agriculture industry, banking, insurance, hospitals, and other social organizations as well. Marketing has become the subject of serious concern and discussion these days. Not only within the national boundary, the scope of marketing has been spreading outside the national boundary. These days, marketing has been used not only as a business strategy but also as a business tactics to win the confidence of the customers in a more competitive arena. Therefore, these days, without marketing, it has become virtually not possible for business people to succeed.

After the restoration of democracy in Nepal during 1990s, the government adopted the economic liberalization policy. A large number of industrial and commercial undertakings have come into existence in the country. As a result, Nepalese business sector has become more complex. This situation has created a greater demand for the implementation of marketing philosophy in the country not only in the business and education sectors of Nepal, but also in daily life of consumers.

This course on marketing has been designed for the secondary level (grade 12)education. The course will follow a conceptual and functional approach to teaching and learning the elementary marketing principles and practices. It shall introduce the studies to the major functions involved in the marketing process of a business organization. This is a theory-cum- practical course which consists of nine units

II. General Objectives:

This course on marketing aims at imparting foundation knowledge of marketing among students in order to prepare them for university level education. The course shall also be useful for students pursuing a career at the front line marketing jobs such as sales-persons, sales representatives and supervisors.

III. Specific Objectives:

The specific objectives ofthis course are to:

i. introduce the students to the modem marketing concept;
ii. impart knowledge on the key elements of marketing;
iii. impart foundation knowledge in relation to marketing functions performed business organizations; and
iv. make the students familiar with some of the emerging issues and tools of marketing.

IV Course Content·

Units	Chapter	Lecture Hours

1.	**INTRODUCTION:** **1. Meaning, Evolution and Importance of Marketing.** **2. Various Concepts of Marketing:** i. Production Concept ii. Product Concept iii. Selling Concept iv. Modern Marketing Concept v. Societal Marketing Concept **3. Marketing Mix: Concept, Major & Supportive Components and importance** 4. **A Case Study on Marketing Concept.**	**15** **4** **5** **4** **2**
2.	**COMPONENTS OF MARKETING**: **1. Markets-** a. Concepts and Types b. Features of Nepalese market. **2. Customers -** a. Concept and Classitications - Individual (noninstitutional and Institutional (Organizational) Buyers b. Buying Motives c. Buying Process of Individual Consumers and Institutional Buyers d. Factors alfecting Individual and Institutional Buying Decisions **3. Demand-** Concept of Needs, Wants, and Demand- Creation of Demand **4. Marketing Process**- Concept and Structure	**14** **3** **7** **2** **2**
3.	**MARKETING FUNCTIONS**: **1. Merchandizing Function-** a. Buying: Nature and Elements; Methods of Buying b. Selling: nature and Elements of Selling **2. Physical Distribution Function-** a. Transportation: Feature and Functions of transport; Strengths and Weaknesses of Land, Water and Air Transport; Factors affecting in Selecting Mode of Transport. b. Warehousing: Concept, Functions, Importance and Types of Warehousing. **3. Facilitating Functions**: Grading & Standardization, Financing, Risk bearing, and Market Information. **4. Field Visit and Class Presentation**.	**10** **2** **4** **2** **2**
4.	**MARKETING ENVIRONMENT**:	**8**

	1. Meaning and Fealures of Marketing Environment; 2. **Components of Marketing Environment**: Internal and External); 3. **Impacts of Marketing Environment** on a Firm's Marketing Activities.	**2** **4** **2**
5.	**PRODUCT**: 1. Meaning of Products; 2. **Types of consumer and Industrial Products**; 3. **Branding**: Meaning of Brands and Trade Mark; Importance of Branding; Types of Brands; Reasons for not Branding Products; and Qualities of good Branding. 4. **Packaging:** Meaning, Functions and Importance of Packaging; Types of Packaging; Features of Good Packaging. 5. **Labeling**: Meaning. Types and Functions of Labeling. **6. Field/Industrial Visit and Class Presentation**	**20** **2** **4** **5** **5** **2** **2**
6.	**PRICING**: **1. Meaning of Pricing and Forms of Price** **2. Objective and Importance of Pricing** **3. Pricing Allowances and Discounts** 4. **Types of Cost**-Fixed Costs and Variable Costs **5. Factors affecting Pricing**: Internal and External Factors	**8** **1** **2** **1** **1** **3**
7.	**DISTRIBUTION:** 1. Meaning and Elements of distribution; 2. **Channels of Distribution** for Consumers and Industrial Products: 3. **Channel Members**: A brief introduction of agents, wholesalers and retailers; 4. **Wholesaling**: Meaning of wholesaler and Wholesaling, Role and Functions of Wholesaler. **5. Retailing**: Meaning of Retailer and Retailing, Roles and Functions of Retailers; Types of Retailers - *Departmental Stores, Super Market, Multiple Shops/Chain Stores, Consumers Cooperatives and Mail Order Business.*	**15** **1** **2** **2** **2** **3** **5**
8.	**PROMOTION**: 1. Meaning, Importance and Components of Promotion; 2. **Advertising**: Meaning, Features and Importance of Advertising; Types of Advertising 3. **Personal Selling**: Meaning and Importance; Types of Sales Persons; Qualities of a Good Salesperson; Sales Process: Meaning and Process of Indoor and Outdoor Sales;	**15** **2** **4** **3**

	4. **Sales Promotion**: Meaning and Importance of Sales Promotion; Methods of Consumer Promotion and Trade Promotion; 5. **Publicity and Public Relations**: Meaning, Features and Importance of Publicity and Public Relations; **6. Home Assianments and Class Presentation**	**3** **2** **1**
9.	**EMERRGING ISSUES IN MODERN MARKETING**: 1. **Agriculture Marketing**: Meaning and Features; Problems and Prospects of Agricultural Marketing in Nepal; 2. **Industrial Marketing**: Meaning and Features; Problems and Prospects of Industrial Marketing in Nepal; 3. **E-commerce**: Concept and Method of E-Commerce; Meaning and Features of Internet Marketing; Use of Internet; 4. **Telemarketing and Televised Marketing**: meaning and Features of Telephone and Televised Marketing; Problemsand Prospects of Televised and Telemarketing in Nepal; 5. **Network Marketing-** Concept and Importance 6. **Field Visits and Class Presentation**.	**15** **3** **2** **3** **3** **2** **2**

Course Component: Theory 120 Lecture Hours and 30 Practical Classes (Project Work) Total Lecture Hours: 120; Full Marks: Theory Classes-80% and Practical Classes (Project Work) 20%;

TEACHING STRATEGIES:

i. Classroom lectures; ii. Group discussion; iii. Paper presentation
iv. Case study; v. Home assignment & Field visits;
vi. Project Work;

Reference books:

1. Thapa, Gopal et.al., Elements of Marketing (In Nepali Medium), Asmita Books Publication, ktm
2. Khadka, Sherjung, Marketing, Asia Publication Pvt. Ltd. Ktm.
3. Thapa, Gopal et.al.Elements of Marketing (in English Medium), Asmita Books

CONTEMPORARY SOCIETY
Grade: XII

Full marks: 100
Teaching hours: 1*50*

I. Introduction:

The explosion of knowledge in various disciplines has accelerated the socio-eoonomic and political change all over the world. Added to it, the advancement in the field of science and technology has increased interaction among the nations and help develop the level of expectations of the people world over. In this context, it is desirable for developing countries like Nepal to meet the pace of contemporary society keeping its socio-cultural heritage intact.

The realities of society shape the destiny of its member. Therefore, it becomes pertinent for the individual to understand the society whose member one is and to processes of its change. Keeping eye on it, this course has been developed to provide an opportunity to the students to have comprehensive knowledge and understanding of the contemporary Nepalese society, its basic problems and challenges. Besides, it intends to familiarize students with the socio-political system, the concepts of civil society, conflict, peace, federalism, restructuring of state, rights and duties of citizen and recent developments.

II. General Objectives:

The aims of this course are to enable the students to:

a) employ skills and knowledge with references to individuals, groups and organization, in understanding better the world they live;
b) demonstrate a basic knowledge and understanding the contemporaryNepalese society and its challenges; and
c) recognize and appreciate the essence of the Nepalese society.

III. Specific objectives:

On completion of the course students should be able to:.

1. describe gradual evolution of society;
2. analyze the characteristics of Nepalese society;
3. identify and evaluate various concepts and facts relating to Nepalese society;
4. explain the importance of Civic Education and indicate its components;
5. state the meaning, types and functions of Civil Society;
6. identify the features of concepts of federalism, restructuring of state, conflict, peace and human rights and duties of citizens;
7. discuss the various problems and challenges faced by Nepalese society in its process of sustainable development and institutionalization of democracy; and
8. acquaint with Nepal's foreign relations and recent development.

VI. Course Content:

Unit-1. Introduction to Society **25 Teaching hours**

1. Concept of Society

2. Types of Society:

a. Primitive Society
b. Feudal Society
c. Industrial and modern Society

3. Concept of civil Society
4. Elements of Good Society
5. Process of Social Integration and Societal Change.

Unit-2. Challenges to the Nepalese Society **25 Teaching hours**

1 . Poverty, Underdevelopment and Unemployment
2. Unemployment
3. Corruption
4. Conflict
5. Terrorism
6. Alcoholism
7. Drug Peddling
8. Impunity
9. Girl trafficking
10. Solution to the challenges

Unit-3 Civic Education Issues of Nepalese Society **25 teaching hours**

1. Concept and importance of Civic Education
2. Concept of Citizenship, its acquisition and loss with reference to the present Constitution of Nepal
3. Citizenship Rights under the Present Constitution of Nepal.
4. State and its restructuring.
5. Nepalese political system :
   i. Legislative
   ii. Judiciary
   iii. Executive
6. Decentralization and local self governance.

Unit-4 Right and Justice **25 teaching hours**

4.1 Concept of Human Rights

4.2 Key Components of Human Rights

a. Civil and Political Rights
b. Social Economic and Cultural Rights
c. concept of Peace
d. Minority Rights
e. Right to Development

4.3 Women rights and trends and challenges of Nepalese Women's Participation in Social, Political and Economic Life

4.4 National Human Rights Commission.

4.5 Socialjustice in Nepalese context:

a. Children
b. Women
c. Madheshi
d. Dalit
e. Indegeneous Janajati and backward communities

Unit-5. Environment and Sustainable Development 25 teaching hours

1. Environment and Human society
    a. Factors effecting environment
    b. Environmental pollution and efforts for environment protection
2. Concept of Sustainable Development
3. Key Components of Sustainable Development
4. Interrelationship between environment and sustainable development
5. Policies of the Nepal Government for environment and Sustainable Development

Unit-6. Nepal's Foreign Relation 25 teaching hours

1. Nepal and its Neighbours: China and India.
2. Nepal and SAARC
3. Nepal and Nonaligned Movement
4. Nepal and the UN.
5. Nepal and WTO
6. Role of the UN in Nepal' peace process.

Evaluation Scheme

Attempt Any Six questions from group "A" and any Eight questions from group "B".

Long questions 6(Six) 6x1 0 = 60

Short questions 8 (Eight) 8x5 = 40

References

सन्दर्भ सामग्री

१. अधिकारी, देव बहादुर र भट्टराई डा. घनश्याम (२०६४) समकालिन नेपाली समाज, आठराई प्रकाशन

२. NDI Nepal (2001) नेपालमा नागरिक शिक्षा (समकालिन समाज) क्रियटिथ प्रेस (प्रा.लि.), कमलादी

३. लुइँटेल, चक्रपाणी र पुरुषोत्तम (२०६०) समकालिन नेपाली समाज, निमा पुस्तक प्रकाशन ।

४. श्रेष्ठ, दाहाल (२०५७) समकालिन नेपाली सामाज, नेपाल फाउन्डेशन फर एडभान्सड् स्टडिज (नेकास)

५. शर्मा, श्रवण (२०६४) ग्रामिण समाजमा शान्ति निर्माण र लोकतान्त्रिकरण, सेडिस, काठमडौँ ।

६. Lamichhane, Nirmala, Contemporary Society-XII, Bhundipuran Prakashan, Ktm

GENERAL MATHEMATICS
Grade: XII

Full Marks: 100
Teaching hours : 150

I. Introduction

This is a course of general mathematics. It covers various elementary Mathematics concepts of general nature with their direct applications in social, managerial, and life sciences. It covers the topics such as elementary functions, Mathematics of finance, derivatives and anti derivatives, matrices, linear programming, probability and differential equations.

II. General Objectives·

The course aims at providing the higher secondary students with minimal mathematical background to continue their studies in social sciences, managerial sciences etc by applying the mathematical techniques and interpretations. Moreover, this course helps the students to appreciate the use of mathematics in daily life.

III. Specific Objectives

On completion of this course the students will be able to:

1. use different types of functions to solve the related problems;
2. solve the problems on annuity, sinking funds and amortization;
3. apply the techniques of matrices in solving system of linear equations;
4. describe the concepts basic to linear programming (LP) and apply them to solve LP problems and dual problem by graphic and simplex methods;
5. explain the concepts basic to probability and solve the simple problems on probability, conditional probability and Bayes" theorem;
6. use the various techniques of differential calculus to solve the algebraic, trigonometric, logarithmic and rate measures;
7. apply the method of calculus in solving the problems on graphing and
8. use the techniques of integral calculus· to solve the problem on indefinite, and definite integration and apply them to find the area of curves.

V. Course Contents

1.	Elementary functions	25
2.	Mathematics of finance	10
3.	Matrices and system of linear equations	20
4.	System of linear programming	20
5.	Probability	10
6.	Derivatives	25
7.	Graphing and Optimization	15
8.	Integration	25

UNIT 1: ELEMENTARY FUNCTIONS 25 PERIODS

Functions: Cartesian co-ordinate System, Graphing: Point by point; Definition of a function, Function notation, Applications

Graph and transformations: Graph of some elementary functions, Vertical and Horizontal shifts: Reflection, Expansion and Contractions

Linear functions: Intercepts, Linear Functions,

Equation and inequalities: Graph of Ax + By + C = 0, Slope of a line, Equations of lines in different forms, Applications.

Quadratic function: Quadratic Functions, Equations and inequalities Properties of quadratic function and meir graph, Applications

Polynomial and rational function: Polynomial function, Rational Function, Applications

Exponential functions: Exponential functions, Base e of exponential functions, Growth and Decay, Applications

Compound interest: Continuous compound interest

Logarithmic functions: Inverse functions, Logarithmic functions, Properties of Logarithmic Functions, Applications

UNIT II: MATHEMATICS OF FINANCE 10 PERIODS

Future value of an annuity: Sinking funds, Present value of an annuity, Amortization, Amortization Schedules

UNIT III: MATRICES AND SYSTEM OF LINEAR EQUATIONS 20 PERIODS

System of linear equation and augmented matrices: Matrices, Solving linear system using Augmented matrices

Gauss - Jordan elimination: Reduced Matrices, Solving system by Gauss Jordan Elimination, Applications

Matrices: Algebra of matrices,

Inverse of a square matrices: Identify matrix, Inverse of Matrix Application to Cryptography

Matrix equations and system of linear equations: Matrix equations, Matrix equations and system of linear equations, Applications

UNIT IV: LINEAR EQUATIONS AND LINEAR PROGRAMMING 20 PERIODS

System of linear inequalities in two variables: Graphing linear equations in two variables, Solving system of linear Inequalities graphically, Applications

Linear programming in two dimensions: A linear Programming Problem, Linear Programming a General Description, Geometric Solution of Linear Programming Problems, Applications

Geometric introduction to simplex method: Standard Maximization Problem in Standard form, Slack variable, Basic and non- basic variables, Basic Solutions and Basic feasible solutions, Basic feasible solutions and the simplex method.

Simplex Method: *maximization with problem constraints of -form* ≤ Initial system, Simplex tableau, Pivot operation, Interpreting simplex process geometrically, Applications
The dual: *maximization with problem constraints of form* ≥ Formation of the dual problem;Solution of minimization problem, Applications.

UNIT V: PROBABILITY 10 PERIODS
Basic counting principles: Addition principle, Venn diagrams, Multiplication principles
Permutation and combinations: Factorial, Permutation, Combination, Applications Sample spaces, events and probability: Experiments, Sample space and Events, Probability of an events, Equally likely events Equally likely assumptions.
Union, intersection and complement of events-odd: Union and intersection, Complement of an event, Odds, Applications to empirical probability.
Conditional probability, intersection and independence: Conditional probability, Intersection of events, Probability Trees, independent events, Bayes' Formula.

UNIT VI: DERIVATIVES 25 PERIODS
Rate of change: Rate of change, Slope
Limits: Function. and graph, Limit, Limit evaluation, Limit of difference quotients.
Derivatives of constant, power forms and sums: Derivative of the constant function, Power function, Derivatives of a constant times function, Derivatives of sum and differences, Applications
Derivatives of product and quotients: Derivatives of products, Derivatives of quotients
Chain rule and power form: Cham rule, power from, Combining rules of difference.
Applications: Marginal analysis in business and economics, Managerial costume revenues and profit, Marginal average cost, revenue and profit
Derivatives of logarithm and exponential functional functions: Chain rule, general form, implicit differentiation.

UNIT VII: GRAPHING AND OPTINIIZATION 15 PERIODS
Continuity and graphs: Continuity, Continuity properties, Infinite limits
First derivatives and graphs: Increasing and decreasing functions, local extreme, First derivatives test, Analyzing graphs.
Second derivative and graphs: Concavity, inflection points, Second derivative test, Analyzing graphs,
Curve sketching techniques: Limit at infinity, Vertical Asymptotes, Graphing, Strategy, Using the strategy, Applications
Optimization: Absolute maxima and maxima, Applications, Absolute maxima.

UNIT VIII: INTEGRATION 25PERIODS

Anti-derivatives and ind,efinite integrals: Anti- derivatives, A geometric - numeric look at Anti - derivatives, Anti- Derivatives and indefinite integrals -Algebraic form (Exponential and logarithmic Forms), Applications.

Integration by substitution: Reversing chain rules, Integration by substitution, Additional substitution techniques, Applications.

Integration by parts

Differential equations - Growth and Decay: Exponential growth law, Population growth, Radio active decay learning.

A geometric -numeric introduction to definite integrals: Area; Rate, area and distance; Rate, area and total change.

Definite integral as a limit of a sum:Fundamental Theorem of Calculus:

Definite integral as a limit of a sum:Fundamental Theorem of Calculus Recognizing a definite integral - Average value.

Area between Curves: Area between a curves and x - axis, Area between two curves, Applications, Income distribution,

V. Prescribed textbooks:

To be written

VI. Reference books:

1. Barnett, Raymond A. and Ziegler, Michael R., *College Mathematics for Business, Economics, Life Science and Sciences.*
2. Tan, S.T., Applied Finite Mathematics, PWS Kent Publishing Company.

GENERAL SCIENCE
Grade: XII

Full marks: 100 (75T+25P)
Teaching hours:150

I. Introduction

General science is a broad-based science study course which integrates theoretical, applied and general popular interests in modern science. It fulfils the need for general science knowledge which is expected of every literate person of modern time. It offers basic knowledge of physics, chemistry, biology and earth science which are essential foundation of modern life.

II. General Objective

On Completing Ihis course students will be able to demonstrate knowledge and understanding in relation to:

a. scientific phenomenon, facts, laws, definition, concepts, theories;
b. scientific vocabulary, terminology, convention, including units, and symbols;
c. scientific quality and their definition; and
d. scientific, and technological processes, values at11d movements.

III. Specific Objectives

On completion of the course students will be able to:

1. explain the basic principles of motion and acquaint with the main ideas of forces of nature;
2. discuss characteristics of wave andtheir application;
3. appreciate the importance of random motion and thermal energy in physics;
4. gain basic ideas of ray optics and its application;
5. appreciate current as a flow of changes and its direct relation with magnetic phenomena;
6. understand the structure and atomic model, advantages and disadvantage of radiation;
7. state and apply fundamental facts and principles of chemistry dealing with the nature and properties of matter, preparation and the physical and chemical properties of chemical substance; changes that occur in chemical reactions;
8. perform simple chemical calculations;
9. identify Chemical patterns and principles;
10. apply knowledge and understanding of chemistry in familiar and unfamiliar situations;
11. record accurately and clearly the results of experiments; draw conclusion and make generalizations from experiments;
12. appreciate the scientific, social, economic, environmental and technological contributions and applications of chemistry;
13. have a preliminary understanding of the evolution of stars;
14. develop a feeling for the size of the universe;
15. be able to appreciate further developments in these areas;

16. have a preliminary understanding of the evolution of star's;
17. develop a feeling for the Size of the universe; and
18. be able to appreciate further developments in these areas.

IV. Course Contents

A. Physics

1. Mechanics

1.1 lntroduction: physical quantity, addition and subtraction of scalars and vectors, scales of measurement, units and dimentions.

1.2 Force and momentum, equation of motion, conservation of linear momentum with examples, motion in a circle, forces, in equilibrium, centre of gravity, centre of mass, angular momentum, and its conservation, torque.

1.3 Work, energy and power, energy conservation, transformation of energy in different forms.

1.4 Nature and range of faces, gravitational force, electromagnetic force, nuclear force acceleration due to gravity-of heavenly bodies, escape velocity, motion of satellite uses of satellites.

1.5 Pressure in a fluid, action of forces when the body is at rest and in motion, viscocity, surface tension and capillarity,

2. Sound

2.1 Characteristics of wave and wave motion, travelling and stationary wave, phenomenon of resonance, intensity of sound wave, noise and musical sound! ultrasonic and infrasonic sound, noise pollution, concept of doppler effect.

3. Heat

3.1 Heat and temperature measurement, expansion of solid, liquid and gas specific heat, latent heat, Calorimetric measurement, Kinetic Theory of Gases (concept only), First Law and Second Law of Thermodynamic (statement) only, and its application, transfer of heat and its application.

4. Optics

4.1 Image formation - Plane mirrors and spherical mirrors, refraction through transparent medium and prisms, concept of total internal reflection; refraction through lenses, power of lens, defects of defects of vision, ray diagram for compound microscope and telescope.

5. Electrostatics

5.1 Concept of electric charge, field, intensity, dielectrics. Capacitor as an energy storing device, types and application of capacitor

6. Electricity and Magnetism

6.1 Charge in motion, electric current, Ohm's Law, resistivity, potential difference, electric power and energy, Kirchhoffs -Laws, and its simple applications, Magnetic

Field due to current carrying conductor, magnetic lines of face, Electromagnetic Induction, AC. and D.C.

7. Modern Physics

7.1 Photoelastric effect, photocell and its uses, radioactivity natural and artificial, radiation hazards due to x-rays and r-rays, biological and medical uses of radio-isotopes conductor super - conductor, semi-conductor (type) and characteristics of diode.

B. Chemistry

Unit 1 Introductory Chemistry 3

- Matter
- Pure and Impure Substance
- Atoms, Molecules
- Symbol, Formula, Valency, Empirical and Molecular Formula
- Chemical Equation and its types, Significances
- Mole Concept: Definition, Avogardo' constant
- Balancing the Equation (Mole Concept Method)

Unit 2 States of Matter 7

i. Gaseous State:

- Properties
- Gas Laws (Boyles' Law, Charles' Law, Combined Gas Equation) Ideal Gas Equations, Daltons' Law of Partial Pressure and its Applications, Grahams' Law of diffusion of gases and the postulates of Kinetic Theory of Gases
- Simple problems relating the above laws

ii. Liquid State:

- Properties of Liquids
- Types of Solutions : Saturated, Unsaturated and Supersaturated
- Solubility
- Solubility Curves tlnd its uses
- Ways of expressing the concentration of solution in terms of normality, morality percentage and gram per litre.

iii. Solid State:

- Properties of Solids
- Efflorescent; deliquescent, Hygroscopic compounds with examples

Unit 3 Equivalent Weight 1

- Definition
- Equivalent weight of acid, base and simple salts

Unit 4 Atomic Structure 3

- Dalton's Atomic Theory
- Drawback's of Rutherford Atomic Model
- Postulates of Rutherford's Atomic Model and Bohr's Postulates
- Aufbace principle, Electronic Configuration in terms of.
- Orbit and Orbitals (1 to 30)
- Isotopes
- Isobars

Unit 5 Electronic Theory of Valency **2**

- Electric conf. of inert gases.
- Octet rule
- Formation of ionic, covalent and co-ordinate bonds
- Lewis structure of O_2, NH_3, NH_4, H_2O_2, SO_4, CaF_2 etc.

Unit 6 Periodic Table **3**

- Mendeleef' s Periodic Law (definition only)
- Anomalies of Periodic Table (detailed explanation is not required)
- Modern Periodic Law
- Classification of elements based on S,P,d and f orbitals.
- Periodic friends in electro Negativity Electron Affinity, Lonization potential

Unit 7 Oxidation and Reduction **4**

- Electronic concept of oxidation and reduction
- Oxidation number
- Difference between oxidation number and valency with illustration
- Balancing simple redox reaction by ion electron [or oxidation number method
- Oxidizing and Reducing agents (definition and illustration)
- Electrochemical series (on the basis of hydrogen-index concept)

Unit 8 Acid-Base **2**

- Bronsted concept and Lewis concept of acid-base with some examples
- Water acts as acid and base
- Definition of salt
- Hydrolysis of simple salt
- Idea of pH
- Simple acid-base titration
- indicator

Unit 9 Chemistry of Non-metals **4**

i. Ozone:

- Structure of Ozone

- Oxidizing properties of ozone
- Ozone layer

ii. Water:

- Angular molecular structure of water
- Hydrogen bonding

iii. Ammonia

- Manufacture of ammonia by habers process (principle only),
- Lab preparation of ammonia (principle only)
- Action of ammonia with
  a) active metals (Na, K)
  b) CO_2
  c) $CuSo_4$ solution
  d) Conc.Hcl
- Uses of ammonia

iv. Carbon and its Compounds:

- Allotropy of carbon (Diamond and Graphite)
- Lab preparation of carbon monooxide and its properties
- Greenhouse effect

v. Sulpher:

- Manufacture of sulphuric acid by contact process (principle only)
- Sulphuric acid acts as dehydrating agent
- Reducing properties of hydrogen sulphide gas
- Lab preparation, oxidizing, reducing and bleaching properties of sulphurdioxide SO_2 gas.

Unit 10 Chemistry of Metals **5**

- Some metallurgical terms : Mineral, one, flux, slag, roasting, calcination, alloy, amalgam (only definition)
- Some important areas of Nepal.
- Generalization of extraction of metal from its ores.

(i) Alkali Metals :

- Characteristics of alkali metal
- Principle of extraction of sodium by Down's process (no details)

(ii) Alkaline Earth Metals, Characteristics

- Compounds of calcium and magnesium.
  a) Bleaching powder
  b) Quick lime
  c) Plaster of Paris
  d) Epsom Salt

(iii) Coinage Metal:

- Chemistry of compound of copper:

- Blue vitriol

(iv) Heavy Metal :

- Toxicity of heavy metals:
- Toxicity of lead and mercuiry
- Corrosion of iron (Electrochemical Theory)

Unit - 11 Introduction to Organic Chemistry **3**

- Definition, source of organic compounds
- Tetracovalency of carbon
- Structure of simple organic compounds
- Functional Group
- Homologous Series
- Common Names
- IUPAC nomenclature of simple organic compounds
- Isomerism (structural isomerism only)

Unit 12 Hydrocarbons **3**

(i) Alkane:

- Isomerism up to six carbon
- Fuel
- Naming of some natural fuels
- Cracking
- Octane number

(ii) Alkene :

- Preparation of ethene: By dehydration of ethanol
- Properties of ethene: (i) Ozonolysis (iii Catalytic hydrogenation (iii) Polymerization (iv) Catalytic hydration

(iii) Test for Unsaturation :

- Br2- water
- alkaline $KMnO_4$

(iv) Alkynes :

- Preparation of ethyne from calcuim carbide
- Properties of ethyne
  - (i) Catalytic Hydration
  - (ii) Hydrogenation
  - (iii) Morkownikov's rule and peroxide effect
  - (iv) Ozonolysis
- Tests and uses of ethyne,

(v) Arenes - (Introduction)

Unit - 13 Chemistry of Some Important Organic Compounds **4**

(i) Chloroform:

- Preparation from ethanol (details not required)
- Physical properties
- Action with (i) air- (ii) Ag (iii) Carbylamines reaction.
- Uses

(ii) Alcohol:

- Definition
- Monohydric alcohol and its classification with simple examples
- Idea of fermentation
- Physical properties with reference to solubility and boiling point
- (concept of hydrogen bonding)
- Toxicity of alcohol, Alcoholic beverages
- Test of alcohol: Iodoform test

(iii) Ether:

- Definition
- Naming of simple ether
- Preparation of diethyl ether (lab preparation only)

Unit- 14 Acquaintance with some important Organic Compounds 4

(i) DDT, BHC (formula and uses)

(ii) Name and uses of simple drugs : (i) Analgeics, Antipyritics (iii Antibiotics (with at least two examples)

(iii) Polymers: Name and uses of at least two natural and synthetic polymers

(iv) Dyes - Name and uses of synthetic dyes, azodyes

(v) Fertilizers:

NPK fertilizers:

- Nitrogen fertilizer
- Phosphorus fertilizer
- Potassium fertilizer

In use and fertilizer as pollutants

Practical 13

1. Simple Lab Techniques

- Use of Burner
- Filtration
- Distillation
- Sublimation
- Crystallisation

2. Preparation of Gases

a. H_2

b. O_2 (without using heat)
c. Co_2
d. NH_3

3. To study properties of acid-base and salts:

- Action on litrus/indicator
- Solubitity ; States
- Action of heat on following salts- NH+Cl, $CuSO_4$. $5H_2O$, ZnO
- Detection of Cation/Ariion of Nacl, $CaCO_3$, $CusO_4$, $ZnCO_3$

Materials Required For Chemical Practical

1. Gas Cylinder
2. Bunsen Burner
3. Rubber testing
4. Test tubes
5. Beakers (of different sizes)
6. Funnels
7. Filter paper
8. Glass tubes
9. Ganrods
10. Convical flask
11. Bunette
12. Pepelse
13. Chemical Balence
14. Condenser (destination set)
15. Evaporing Basins
16. Ruber bungs (different size)
17. Gas Jars with lids
18. Water troughs
19. Volumetive flask
20. Bee hive shelf
21. Stands (both tripod and clampes)
22. Test tube holders
23. Water glass

Reference books:

1. Ghosh, Sinha: Intermediate Physical Chemistry
2. Ghosh, Sinha: Intermediate Inorganic
3. Bahl, BS.: Elementary Organic Chemistry
4. Sthapit, M.K.: Elementary Practical Chemistry
5. Sthapit, M.K. & Tuladhar, C.B.: Elementary quantitative analysis
6. Sthapit, M.K, & Pradhanan, RR: Foundations of Chemistry.- Vol I and Vol II
7. Palak, K,R.: Fundamentals of Organic Chemisry

8. Jain, S.K.: Conceptual Chemistry Volland Vol I

C. Biology

1. Introduction to Biology 1 teaching hrs
2. Diversity of Life
   a. Basic coricepts of Procaryotic and Eucaryotic organizations.
   b. Diversity by Eucaryotic organisms upto class, (charactersitic feature and examples)

3. Economic Importance of -

Algae: Chlqrophycae
Cyanophycae
Basicllariophyceae.
Fungi: Ascomyceties (Yeast)
Basidiomycites (Mushroom)
Lichen:
Gymnosperms:
Angiosperms : Morphology, economic importance of

   a. Leguminosae (Papilionaceae)
   b. Graminae Earthworm and Insects

4. Parasitic Animals: Structure, life-cycle and its importance Protozoa -
Entamoeba and Giardia.
Aschelniinthes - Ascaris, Platyheminthes - Fasciola and Taenia

5. Pisces: General concept of Pisces
Freshwater fishes (stagnant and running)
Exotic and indigenous fishes of Nepal.
Economic importance.

6. **Reptile** : Basic concept of poisonous and non-poisonous snakes. Economic importance
7. Human Evolution
8. Cell divisions : Mitosis, Meiosis and Gametogenesis
9. Life processes:
   a. Photosynthesis
   b. Respiration (plants, animals, man)
   c. Ascent of sap.
   d. Transpiration
   e. Nutrition in Man
   f. Blood groups in Man
10. Human Diseases : General concept only

a. AIDS b. Cancer c. Alcoholism d. Tuberculosis.

11. Ecology:
   a. Origin and development of ecosystem
   b. Structure of ecosystem,

Non-Living - Light, Temperature, Wind, Pricipitation and Soil. Living - Producers, Consumers, and Decomposers, symbiosis, · commensalism, proto- cooperation.

c. Population : Characteristics of Population:
   Population growth:
   Important Factors- Birth rates, death rate, migration and age, structure
   Theories of Population Growth (Exponential and Sigmoid)
   Population Growth Control
d. Characteristic features of Community :
   Trophic structure, Growth form, Dominance and Trophic function.
e. Natural Resources
   Renewable and Non-renewable
f. Conservation of Natural Resources:
   National Parks,

Wildlife Reserve and conservation-Area. g. Pollution?

Reference books:

1. Aggarwal, S. -*Biology for Class XI and XII*
2. Verma and Pandey -*A Textbook of Biology for Class XI and XII*
3. Dutt &, A. C.- *A Class book of Botany*
4. Odum, E.P. -*Fundamentals of Ecology*
5. Vidyarthi, R.D. -*A Textbook of Zoology*.

Practical:

Study of : Plant Diversity : Non-flowering- Marchentia, Fern, Moss Lichen, and Mushroom.
Flowering- Pea plant and Maiz or Rice. Animal Diversity:
Ascaris (round worm),
Pheretima (earthworm)
Fasciola (liver fluke)
Taenia (tapeworm)
Labeo (carp-fish) and
Wallago (catfish)

Life - Processes

a. Conduction of water (Ascent of sap)
b. Evolution of O2 during Photosynthesis.
c. Bell-jar Experiment to show transpiration process.

Ecosystem

1. Study of Producer, Consumers in the aquatic and terrestrial ecosystem
2. Calculation of population growth rate by using human population ansus data of Nepal

D. Earth Science

1. Earth Science : Introduction hydrological cycle : Different components and definitions of various terminologies. ½ teaching hours

2. Atmosphere : Stratification, lapse rate, ozone effect, green house effect, temperature inversion on pollution, acid rain, global warming, general circulation of wind system, monsoon, local winds, cloud jermation. 2 teaching hours

3. Precipitation

(i) Mechanism for rainfall, measurement and interpretation of observed data, rain erosion and central for erosion,

(ii) Snow and glacier, movement of glaciers, erosion, moranies, glacier lakes, glacier lake outburst 2 teaching hours

4. Infiltration, measurement, interflow, fercalation, aquifers, water table, ground water reseroomr, and movement. 1 teaching hours

5. River System : Topo map, catchment, relief, river profile, draniage pattern, draniage density, stream order, discharge measurement, hydrograph, floods.

2 teaching hours

6. Geology: Stratification, rock types, fold mountains, formlts, (some more topics to be added). 2½ , teaching hours

Lab **5 marks**

1 .

(i) Topographic Map Interpretation : sub catchment delimeation, relief, stream profile,

(ii) Average rain fall calenlation Arithmatic, Thiessin, and lsohygetal methods

(iii) Hydrograph and its components

2. Geology:

(i) Rock types identification

Space Science **10 hrs**

I. Solar System **1 teaching hours**

a. Sun, planets and satellites

II. Stellar Evolution **4 teaching hours**

a. Hydrogen burning phase forming helium
b. Other nuclear fuel, red giant, white dwarf
c. Exhaustion of all nuclear fuel with the formation of iron
d. Super nova, neutron star (quasar) black hole.

III. Galaxy

a. Shapes, Spiral, elliptic, irregular
b. Galactic mass, size and distance scale
c. Clusters of Galaxy

IV. Universe **2 teaching hours**

a. Expanding universe, hubble law (red slight) age and size of the universe.
b. Bending of light by gravity and gravitational sensing effect.

INTRODUCTION TO EDUCATIONAL TECHNOLOGY
Grade: XII

Full marks: 100
Teaching hrs: 1*50*

I. Course Descripion

This course is designed to assist the students to understand the basic concepts of educational technology and its relations with instruction. It is hoped that this course will help the students to understand and apply viable technologies in education and instruction. This course also introduces the potential tools and techniques that can generate quality outputs of education. The aspiring teachers would get benefit from this course in regard with facilitating class-room instruction. This course includes both theory and practical activities.

II.General Objectives

The general objectives of this course are to:

- explain the trends, approaches and techniques of educational technology;
- discuss the use of technology in a right manner in order to facilitate instruction in the classroom; and
- explore and select viable technologies for use in instruction .

III.Specific objectives

At the end of this course the students will be able to:

- distinguish between educational technology arid instructional technology;
- define the role of educational technology in classroom instruction;
- state the purpose and functions of educational technology;
- prepare a module based on programmmee instruction;
- explain the concept of individualized instruction;
- identify the selection of educational technology with learning;
- select appropriate media for classroom instruction;
- explain the· roles of various forms of technology in classroom instruction;
- select and use educational technology to facilitate student learning;
- define education as a process and evaluate the role of educational technology in the process;
- explain the concepts of open learning and distance education;
- create (develop) a learning resource centre within the classroom situation;
- explain the role of communication in instruction;
- analyse and comment on self-instructional materials;
- analyze and comment on radio-broadcasts; and
- develop self-instructional module, based on primary school text book.

Contents

Unit 1: Introduction to Educational Technology 10 hrs

- Meaning of education
- Meaning of technology
- Education as a process
- Meaning of educational technology
- Purpose of educational technology
- Instructional technology and educational technology
- Use of educational technology .

Unit II: Programme Instruction **10 hrs**

- Its meaning and purposes
- Development of Programme Instruction
- Individualized Instruction

Unit III: Educational Technology and Learning **12 hrs**

- Sense of sight
- Perception and formation of concepts
- Value of one sense over another
- Multi-Sensory approach
- Dale's cone of experience
- Media effects on child's learning

Unit IV: Educational Technology and Teaching **10 hrs**

- Function of media
- Characteristics of media
- selection and use of media in classroom instruction
- Media effects on role of teacher

Unit V: Forms of Educational Technology **12 hrs**

- Print
- Audio
- Visual
- Exemplars in Nepalese context
- Audio-Visual
- Information processing
- Multi-media approach

Unit VI: Radio Education **10 hrs**

- Role of Radis in Education
- Interactive Radi Instruction (IRI)
- Examples of IRI in Nicaragua, Kenya and Honduras
- Radio Teacher Training in Nepal

Unit VII: Communication **8 hrs**

- Meaning and purpose
- Importance of communication in facilitating instruction
- Role of information in instruction
- Media and messages
- Examples of mass media communications .

Unit VIII: Instructional Television (lTV) **8 hrs**

- Educational TV and Instructional TV
- Utilization of ITV
- Potentials of ITV in Nepalese context
- Examples of ITV in other parts of the world

Unit IX: Developing a Resource Centre **10 hrs**

- Meaning of a resource centre
- Selection of materials for a resource centre
- Accessibility of media and material
- Org^{n} of a resource centre facilities
- Resources and facilities
- Maximization of use of a resource centre

Unit X: Instruction as a System **10 hrs**

- Meaning of a system
- Components of an instructional system
- Role of educational technology within the system

Unit XI: Open Learning and Distance Education. **10 hrs**

- Meaning of open learning and distance education
- Open learning as an alternative approach to education
- Distance education as a method of teaching.
- Tools ana techniques of open learning and Distance Education

Unit XII: Library as a Resource **10 hrs**

- Components of a library system
- Search for materials (cataloging, electronic search)
- Selection of appropriate resou'rces
- Use of resources.

Unit XIII: Practical Activities (internal evaluation) **30 hrs.**

1. Study of 5 self instructional materials produced by Distance Education Centre or John Hopkins University or Basic and Primary Education. and critically analyse the objectives and contents in relation with teacher training

- appropriateness in relation with technology used and the background of participating teachers.

- Preparation of a report suggesting alternative instructional technology for future activities.

2. Development of at least 5 self instructional modules based on the subjects of the primary school level for.students.

3. Listening of 5 radis oroadcasts related with Distance Education Teacher Training and prepare a report indicating

- the contents received
- the use of the knowledge in classroom practice.

Textbooks:

To be written.

Reference materials:

- Self instructional materials of Distance Education centre
- Self instructional m;,terials of BPEP produced by RCDU
- Study materials produced by JHU/PCS/Kathmandu
- Radio scripts and cassette tapes of DEC:
- IRI materials produced by Radio Nepal /UNICEF

INSTRUCTIONAL ORGANIZATION

Grade: XII

Full marks: 100
Teaching hours : 150

I. Introduction

This course intends to impart the students with adequate understanding of the requisites of effective instructional organization in schools in general and primary level in particular. Besides providing conceptual understanding about the various approaches to instructional organization, the course incorporates some practical elements to equip the prospective school teachers with focus on skills for efficient implementation of Grade and multiGrade teaching in primary Grades. This course indicates some of the major components of the primary teacher training package and pedagogical components of professional course of Faculty of Education (FOE)

II. General objectives

The general objectives of the course are:

a. introduce basic concepts of instructional organization;
b. acquaint the students with the various approaches of instructional organization;
c. develop practical skills in the students in instructional organization; and
d. assist the students to apply these skills in classroom organization.

III. Specific objectives

Upon completion of the course, the students will be able to:

1. describe the major concepts, features, strengths, weaknesses and constraints of the various types of instructional organization;
2. list and explain the major approaches to instructional organization for effective instruction in schools;
3. prepare plans and schedules, develop instructional strategies and construct appropriate instructional aids for different types of instructional organizations;
4. identify the appropriate instructional contexts and select suitable methodologies for the application of each type of instructional organization in the effective and efficient manner;
5. describe the major characteristics, strengths, and weaknesses of the various types of student grouping;
6. identify the appropriate instructional contexts and apply various pattern of students grouping; and
7. design and apply individual or group project selected to instructional organization.

IV. Course Contents

A. Theoretical Perspectives

Unit I. Introduction to Instructional Organization 12 hrs

- Meaning of instructional organization
- Difference between instructional and classroom organization
- Importance of classroom organization in instruction and learning
- Types of instructional organization
- Subject / departmentalised teaching
- Grade teaching
- MultiGrade teaching
- Non-Graded teaching
- Mixed pattern of teaching

Unit 2 - Subject Teaching **12 hrs**

- Meaning of Subject teaching
- Major features of subject teaching
- Objectives of subject teaching
- strengths and weaknesses of subject teaching
- Need and use of subject teaching in upper primary Grades.
- Role of teacher in suqject teaching

Unit 3. Grade Teaching **16 hrs**

- Meaning of Grade teaching
- Major features of Grade teaching
- Objectives of Grade teaching
- Advantages and disadvantages of Grade teaching
- Managing classroom for Grade teaching
- Role of teacher in Grade teaching

Unit 4 -MultiGrade teaching **16 hrs**

- Meaning of multiGrade teaching
- Major features of multiGrade teaching
- Objectives of multiGrade teaching
- Strengths and weaknesses of multiGrade teaching.
- Need of multiGrade teaching in the context of Nepal.
- Role of teacher in multiGrade teaching
- Use of monitor in multiGrade teaching

Unit 5 - Non-Graded Teaching **16hrs.**

- Meaning of non-Graded teaching
- Major features of non-Graded teaching
- Objectives of non-Graded teaching
- Advantages and disadvantages of non-Graded teaching

- Use of non- Graded teaching for out of school children and pre-school children

Unit 6 - Mixed Pattern of Classroom Organization 10 hrs

- Meaning of mixed pattern of classroom organization
- Conditions for using mixed pattern in classroom organization
- Ways of making mixed pattern organization effective
- Constraints of mixed pattern

Unit 7 - Basis of Grouping Students 18 hrs

- Meaning of grouping
- Importance of grouping
- Age grouping
- Ability grouping
- Interest grouping
- Sex grouping
- Socio-metric grouping
- Mixed grouping
- Selection and use of different grouping techniques to meet the learning needs of children with varying needs, learning capacity and interest.
- Handling gifted and seow learners.
- Conditions of using different grouping techniques for instruction.

Unit 8. Management of Instruction 10 hrs.

- Individualised vs. group instruction
- Classroom instruction
- Team teaching
- Art of questioning
- Use of instructional aids including blackboard.

B. Practical Work 5 hrs

Unit 9. Planning for Instruction

- Scheduling for different types of instructional organization
- Lesson plan
- Management of classroom setting
- Management of classroom materials
- Managing extra curriculum activities

Unit 10. Primary School Curriculum 5 hrs

- Learning outcomes
- Curriculum structure
- Arranging curricular contents in line with different instructional organization.

V. Reference books:

1. CERID (1988) MultiGrade Teaching in Primary School of Nepal Kathmandu Nepal.
2. Hillson, Maurie (1975) Change and Innovation in Elementary School Organization. New York: Hold, Rinehart and Winston, Inc.
3. PEP/MOEC. (1989) Grade Teaching (Training Manual). Kathmandu : Primary Education Project, MOEC.
4. PEP/MOEC (1989) Multi-Grade Teaching (Training Manual). Kathmandu. Primary Education Project, MOEC.
5. PROAP/UNESCO (1986). Multi-Grade Teaching, Bangkok: UNESCO, PROAP.
6. Kafle, Basu Dev, Classroom Organization and School Management, Primary Education Development Project Sanothimi, Bhaktapur,

Prim.Ed. 151

PRIMARY EDUCATION

Grade: XII

Full marks: 100 (80T +20P)

Teaching hours : 150

I. Introduction

This course is designed to assist the students in understanding the concepts of primary education. It familiarizes them with the practices and problems of primary education with special reference to Nepal. It provides opportunities to students to study the goals and structures of primary Education, in SAARC countries. This course also offers field exposure to the students.

II. General / Objectives

This course, in general, intends to:

- provide understanding of the conceptual frame work of primary education;
- familiarize the practices and problems of primary education in Nepal; and
- acquaint the students w'1th the goals and structures of primary education in SAARC countries.

III. Specific Objectives

Upon completion of this course the students will be able to:

- explain the concept and state the objectives of Primary Education;
- describe the concept of "Education for All;" basic education; and universal free and compulsory primary education;
- state the goals, objectives and structures of primary education in SAARC countries;
- list the objectives of early childhood education and relate them with primary education;
- identify various nature of primary school children (6^ 10 years);
- explain the educational needs of prim-ary schoolchildren;
- state the goals and objectives of primary education hi Nepal;
- analyze primary school curriculum of Nepal in terms of its structure and relevance;
- list and explain main features of NESP (1971) and NEC Report, (1992);
- state the role of BPEP and NCED in promoting primary education in Nepal;
- explain basic indicators of primary education;
- compute the student flow rate of primary school; and
- idenfify basic problems of primary education ..

IV. Course Contents:

A. Unit 1: Concept and objectives of primary education. *5 hrs*

a) Concept of primary education.
b) Aims and objectives of primary education.

Unit 2: Trends of primary education *15 hrs*

a) Basic Education.
b) Education for All
c) Universal free and compulsory primary education.

Unit 3: Primary education in SAARC countries *15 hrs*

a) Goals and objectives of primary education.
b) Structure of primary education.

Unit 4: Early childhood education *5 hrs*

a) Concept.
b) Objectives.
c) Linkage with primary education.

Unit 5: Nature of primary school children (6-10yrs) *10 hrs*

a) Inquisitiveness.
b) Readiness to learn.
c) Gender Isolation.
d) Gang age.
e) Sense of creation.

Unit 6: Educational needs of primary school children *15 hrs*

a) 3R'S.
b) Habit formation.
c) Creativity.
d) Problem solving.
e) Base for furtner education.

Unit 7. *Practices of primary education in Nepal* *30 hrs*

I. Present status.

a) Goals and objectives.
b) Structure.
c) Curriculum.
d) Access
e) Equity.

II. Education Commissions.

a) Salient feature of NESP 1971.
b) Salient feature of NEC Report 1992.

III. Roles and Functions of

a) Basic and primary education project (BPEP).
b) National Centre for Educational Development (NCED).

Unit 8. Basic indicators of primary education *12 hrs*

a) Gross enrollment ratio (GER).
b) Net enrolment ratio(NER).
c) Promotion rate.
d) Dropout rate.
e) Transition rate.
f) Repetition rate.

Unit 9. Problems of primary education in Nepal *13hrs.*

a) Participation relate.
b) Dropout related.
c) Promotion related.
d) Resource related (teacher, physical facilities, educational materials.)

B. Practical Works **30hrs.**

V. Practical Activities

Internal: *Practical:* 20%

1. Study of at least one primary school and write a report indicating their problems related to teachers, physical facilities materials and potential measures for improvement. 10% ·
2. Computing student flow rate from the given data. 10%

VII. Reference books:

1. Dhakal, M.P., Nepalma Prathamik Shiksha, Vidhyarthi Pustak Bhandar, Bhotahiti, 2052.
2. Wagle, M.P. & Dhaka\, M.P., Shiksha Parichaya, Taleju Prakashan, Bhotahiti, Kathmandu, 2054.
3. Education for 11. Final report. UNESCO, Regional office -of education for Asia and the pacific.
4. The Master Plan Team (1997). The Basic and Primary Education Project.
5. Ministry of Education (1971). National Education System Plan Kathmandu.
6. Lockheed, M.E. and A.M. Verspoor (1990). Improving primary education in developing countries. A review of policy option Washington D.C. World Bank
7. राष्ट्रिय शिक्षा आयोग (२०४९) राष्ट्रिय शिक्षा आयोगको प्रतिवेदन, काठमाडौँ ।

SPECIAL NEEDS EDUCATION
Grade: XII

Full marks: 100(80T + 20P)
Teaching hrs.: 150

I. Introduction

This course is designed as a special study area for students. who desire to acquire basic skills and knowledge in the field of Special Need Education (SNE). This is an important area in the preparation of primary school teachers and it offers a sound introduction for further studies in SNE at higher level.

II. General Objectives

The general objectives of Special Needs Education are to:

a. to explain the nature and process of special needs education;
b. to maximise the learning achievements of all children in the regular classroom situation; and
c. to develop positive attitude towards children with special educational needs.

III. Specific Objectives

Upon completion of the course, the students will be able to:

1. define the concept of special needs education;
2. describe the trend of SNE;
3. differentiate between·normal and deviant development pattern;
4. explain the importance of early stimulation;
5. categorize children with specialeducational needs;
6. explain the approaches to be adopted for inclusive education;
7. prepare plans for instructional purpose annual, unit and daily;
8. adjust the existing curriculum to respond to the needs of the children;
9. prepare an IEP for the child with special educational needs;
10. manage classroom situation as per the needs of the children;
11. enlist a range of support services to facilitate inclusionarv settings; and
12. conduct a case study individually.

IV. Course Contents

Unit I Concept of Special Needs Education **10 teaching hrs**

- Meaning and definition of SNE
- Importance of SNE
- Trends of SNE

Unit 2 Patterns of Child Development **15 teaching hrs**

- Developmental areas: normal and deviant

- Factors influencing child development (pre and post-natal development)
- Early stimulation.
- Individual differences in child development

Unit 3. Children with Special Educational Needs 20 teaching hrs

- Children with disabilities
  (impairment - disability-handicap)
- Children with other disadvantages
  (linguistic, cultural, ethnic, race, gender, economic and social)
- Gifted and talented
- Identification, screening and referral

Unit 4 Inclusive Education 20 teaching hrs

- Definition (segregatior, integration, mainstreaming inclusion)
- Principles of inclusive education (Salamanca statement World Conference on Education for All (WCEFA) Child Rights Convention (CRC)
- Conditions! promoting enclosure.
- Basic approaches to inclusive education (collaborative approach, team approach, child - centred pedagogy)

Unit 5 Planning of Instruction 20 teaching hrs

- Participatory learning: (child -to -child, child- centered, grouping of students).
- Recording student's progress:
  (observation, use of checklist, attitude scale)
- Annual plan, unit plan and daily plan of instruction
- Curricular adjustment:
  (addition, supplementation, substitution, enlargement, simplification in relation to objectives methods and materials)
- Teacher's responsibility (accountability) for children's learning outcomes

Unit 6 Individualized Education Program (I.E.P) 15 teaching hrs

- Individual educational assessment
- Selection of teaching-learning materials, and methods
- Family and community involvement
- Involvement of other resource personnel:
  Teachers, Headmasters, R.Ps, and Parents
- Ongoing monitoring and evaluation of IEP.

Unit 7. Classroom Management 15 teaching hrs

- Arrangement and rearrangement of existing physical facilities : light, ventilation, space, furniture, blackboard
- Seating arrangement
- Grouping of students.
- Management of space for the display of instructional materials; equipment and students' work.
- Strengthening appropriate behavior .

Unit 8 Support Services **15 teaching hours**

- Favorable administrative han system
- Availability of support services : therapeutic services, physio -speech occupational therapy and remedial instruction
- Referral services
- Support from parn professionals
- Program enrichment for the gifted /talented .

Unit 9 Case Study **20 teaching hours**

The students will be required to visit an organizational/school to identify children with special needs and prepare and present a report based on his/her observation and analysis of the needs of the child/student observed. The prepared Case Study will be evaluated internally by the subject teacher on the basis of the oral presentation of the Case-Study prepared in written form by the student. This internal evaluation of the case study will carry 20 marks and the Case Study will have the following format.

Format of the Case Study (20 marks):

1. Identification of the case - 3
2. Profile of the case - 4
3. Areas of strengths and weaknesses - 5
4. Existing services - 4
5. Remedial Measures. -4

20

The submitted Case Study will be evaluated as the marks distributed over the above headings.

V. Textbook

To be written.

Social Studies
Grade: XII

Full Marks: 100
Pass Marks: 35
Teaching Hours: 150

I. Course Description

This course has been designed for Grade XII students as an Elective IV subject. It includes the study of man land relationship, major historical events, and components of economic development, governance system, socio-cultural patterns and international understanding with special focus on Nepal.

II. General Objectives

The general objectives of this course are to:

a) describe ecological division, climatic condition, natural resources and population situation of Nepal;
b) analyze the major past events of Nepal and the world;
c) explain the issues, factors and efforts of econonl'lc development in Nepal;
d) discuss the political and govemance system in Nepal;
e) describe the socio-cultural features of Nepalese society; and
f) assess Nepal's foreign policy and its role in world politics.

III. Specific Objectives

The specific objectives of this course are to:

a. introduce geographical/ecological divisions and river system of Nepal;
b. describe the factors affecting climate and the types of climate in Nepal;
c. point out the pattern of distribution of natural resources in Nepal;
d. present a picture ofland use pattern in Nepal;
e. explain population situation of Nepal with a focus on density, composition, fertility, mortality and migration;
f. describe the major events in the history of modern Nepal which have lasting impact on the present day;
g. give an outline of the major revolutions of the world;·
h. give an account of the Indian independence movement and the establishment of the communist rule in china;
i. explain the concept and issues of economic development;
j. analyze the factors, and examine the performance of economic development in Nepal;
k. discuss the various major development efforts in Nepal;
l. explain the components of citizenship and correlation between citizen's rights and duties;
m. describe the elements of state, and fealmes of various democratic political systems;
n. list the salient features of the present constitution of Nepal;

o. discuss the governing system, and the role of political party and civil society in Nepal;
p. introduce the basic concepts of society and culture;
q. describe the different types of social institutions in Nepal;
r. discuss the existing status of women in Nepalese society;
s. examine the major problems caused by social disorganization;
t. state the determinants of Nepal's foreign policy, and discuss its relation with India and China;
u. assess the role ofNepal in the SAARC and the UN;
v. examine the present status of NAM; and
w. introduce various international agencies working in Nepal.

IV. Course Contents

Unit 1: Land and People of Nepal 25 teaching hrs

1.1. Geographical/ecological divisions

- Nepal as a country of geographical diversity
- Ecological regions: mountain, hill and tarai (brief Geographical accounts)

1.2. River systems: General introduction

1.3. Climate

- factors affecting climate
- summer and winter climatic conditions
- types of climate

1.4. Natural resources: distribution of water, forest, soil and minerals.

1.5. Land use pattern

1.6. Demography/population situation of Nepal

- regional distribution and density of population.
- population composition by age, sex, caste/ethnicity, literacy/educational attainment.
- fertility and mortality pattern
- migration : causes and consequences of internal migration
- population policies (current plan) : objectives, targets and strategies.

Unit 2: A Glimpse on the Past 25 teaching hrs

2.1. Unification of Nepal: Role ofPrithbi Narayan Shah, Rejendra Laxmi, Bahadur Shah and Bhimsen Thapa

2.2. The Ran a Regime: rise of Jung Bahadur and his consolidation of power, socioeconomic reforms during Rana rule revolutionary activities against Ranas.

2.3. The 1950 movement: factors leading to the movement role of Tribhuwan, Delhi pact

2.4. Towards democratic exercise (1951-60): The general election, working of government and royal coup.

2.5. Referendum (1980): Students movements, King's declaration ofreferendum and its verdict.

2.6. People movement 1990 (2046-47):

- causes, major events and outcomes
- people movement- 2006-7 (2062-63): Causes, major events and achievements.

2.7. Revolutions of the world and political awakening in Asia.

- Glorious revolution; American War Ofindependence, French Revolution: Russian Revolution. (Causes and impacts)
- Indian independence movement; establishment oficommunist rule in China.

Unit 3: Economic Development in Nepal 25 teaching hrs

3.1. Concept of development and human development index (HDI)

3.2. Major issues of economic development: poverty, inequality, unemployment and regional disparities.

3.3. Factors of economic development:

- Natural resources - forest, mineral and water (importance and use)
- Human resources - size and growth of population and labour force
- Capital formation and development infrastructure- communication and transportation.
- Non-economic factors- education and health

3.4. 3.4. Economic performance of Nepal: agriculture; industry; trade; Tourism; Transportation and other important service activities.

3.5. Major development efforts :- human resources development; Agricultural transformation; poverty reduction; Industrialization; Foreign trade; Regional development; water resources development and environment protection.

Unit 4: Government and Polities 25 teaching hrs

4.1. Citizenship- meaning, acquisition and loss with reference to Nepal,

4.2. Rights and Duties- co-relationship b~tween rights and duties; concept of human rights.

4.3. State- meaning and elements; difference between state and nation.

4.4. Political system and government.

4.4.1. Democratic political system;

Meaning and features of democracy.

- Features of unitmy and federal system.
- Features of parliamentary and presidential system.

4.4.2. Constitution;

- meaning and types of constitution
- an account of the constitutional development in Nepal.
- present constitution of Nepal:
    - salient features
    - fundamental rights
    - composition and functions of the legislature,
    - representation executive and judiciary system.

4.5. Political party and civil society- meaning and role with rederence to Nepal.

4.6. Local Government- composition and functions of:

- village government
- town/city government
- district government

Unit 5: Society and Culture of Nepal **25 teaching hrs**

5.1. Basic socio-cultural concepts:

5.1.1. Society and culture- meaning and characteristics

5.1.2. Social and cultural change- meaning and factors

5.1.3. Diversity in society -languages; festivals; sacraments, race; ethnic group; food habits and dress (Introduction and differences in mountain, hill and terai)

5.1.4. Social Stratification-Caste and class

5.2. Social Institutions (Meaning, Types and basic concepts)- Marriage, family, kinship; religion

5.3. Women in society:

- gender discrimination.
- dowry system.
- violence against women within and outside of family.
- trafficking; sexual harassment; prostitution

5.4. Social disorganization and its problems.

- juvenile delinquency; youth unrest; problems of aged
- poverty and unemployment
- dalits, disadvantaged and marginalized groups and their problems.
- bounded labours (kamaiya)
- corruption.

Unit 6: International Understanding **25 teaching hrs**

6.1. Nepal's foreign policy- objectives and determinants.

6.2. Nepal's relation with India and China after 1950 (2007)

6.3. Nepal and the SAARC:

- objectives and principles of the SAARC
- organizational structures and their fi.mctions.
- role of Nepal in the SAARC.

6.4. Non-aligned movement- objectives and present status

6.5. Nepal and the UN system:

- objectives and principles of the UN
- organizational structures and their functions
- role of Nepal in the UN peace- keeping operation

6.6. Specialized Agencies- introduction and purposes (World Bank, IMF, WTO, UNDP, UNESCO, UNICEF and WHO)

V. Instructional Methods and techniques:

Along with lecture, teachers should emphasize on active participation of students applying question-answer, group discussion, problem-solving, inquiry, observation, and other methods and techniques occasionally, according to the nature of subject matters.

VI. Evaluation Scheme:

Group A- Short-answer	10	10x7=70
Group 8 - Long- answer	2	2x15=30
		100 marks

VII. References:

1. CBS, Current data, **Statistical Pocket Book of Nepal**, Kathmandu: Central Bureau of Statistics.
2. CBS (2003), **Population Monograph of Nepal-Vol. I & II**, Kathmandu: Central Bureau of Statistics.
3. Shrestha, S.H. (2004), **Economic Geography of Nepal**, Kathmandu: Educational Publisling House.
4. Regmi, D.R. (1975), **Modern Nepal -Vol. I & II**, Calcutta: K.L. Mukhopadhya,
5. यादव, पिताम्वर लाल (२०६३), **नेपालको राजनैतिक इतिहास**, काठमाडौँ : एम.के. पब्लिशर्स ।
6. श्रेष्ठ, शिवकुमार (२०६३) **आधुनिक विश्वको इतिहास,** काठमाडौँः रत्न पुस्तक भण्डार ।
7. Todaro, M.P. (1993), **Economic Development in the Third World**, Hydrabad: Orient Longman.
8. Thirlwall, A.P. (1994), **Growth and Development with Special Reference to Nepal's Economies,** Hampshire: Macmillan Press.
9. MOF (Current), **Economic Survey**, Kathmandu: Government of Nepal, Ministry of Finance.

10. Kapoor, A.C. (2007), **Principles of Political Science**, New Delhi: S. Chand & Co.
11. काफ्ले, मायाप्रसाद र श्रेष्ठ, अमन (२०५९), **राजनीतिशास्त्र,** विराटनगर: भुवन प्रकाशन ।
12. पोखरेल, कृष्ण, (२०५८) **नेपालको शासन र प्रशासन,** काठमाडौ : एम.के पब्लिशर्स
13. Shankar, R.C.N. (2005), Sociology: Primary Principles, New Delhi: S. Chand and Co.
14. ShamJa. J.L. (2039 B.S.), **Hamro Samaj - EK Adhyan**, Lalitpur: Sajha Prakashan.
15. Bista, D.B. (1980), **People of Nepal**, Kathmandu: Ratna Pustak Bhandar.
16. SAARC (2006), **SAARC-A Profile**, Kathmandu: SAARC Secretariat.
17. Baral, Lok Raj (1988), **The Politics of Balanced Interdependence Nepal & SAARC**, New Delhi: Sterling Publishers.
18. NPC (Current): **Current Plan**.
19. Khatri P.K. (2044 B.S.), Nepal Samaj Ra Sanskriti, Lalitpur: Sajha Prakashan.
20. Lamichhane, Nirrnala, Social Studies-XII, Bhundipuran Prakashan, ktm

RURAL ECONOMICS
Grade: XII

Full marks: 100
Teaching hours: 150

I. Introduction

This course .is designed for the students of the secondary level offering Rural Economics as an elective subject. The purpose of this course is to familiarize students with problems and prospects of rural economy of Nepal. The students will be made familiar with problems focused by rural economy and will be able to diagnose problems and conceive solutions for upliftment of the rural economy.

II. General Objectives

The general objectives of this course are:

a. to provide general information about rural economy;
b. to generate interest for further study in rural economy; and
c. to prepare human resources for rural institutions.

III. Specific Objectives of the course are to:

1. to provide knowledge and exposure to rural economic situation;
2. to prepare students for further studies in Rural Economics; and
3. to prepare manpower to work at field level with institutions such as VDC, and NGOs.

IV. Course Contents

Unit-I. Basic Economics Concepts 30 Teaching hrs

- Definition of economics and its scope
- Economies concepts: Wants, Demand, Supply, Value, Goods, Wealth, Consumption, Utilty.
- Concepts of micro and macro economics
- Cardinal utility analysis of demand
- Law of return

Unit - II. Rural Economy in Nepal. 10 teaching hrs

- Concepts and size of rural economy, mountain, hill and Terai areas and rural population distribution.
- Rural and urban linkages including Disparities
- Rural-Urban linkages especially in terms of migration, rural saving to urban areas.

Unit - III. Major Economic Activities in Rural Areas of Nepal 15 Teaching hrs

1. Agriculture:

- Agricultural growth and stagnation
- Diversification and commercialization
- Agricultural policy in current plan
- Problems and prospects

2. Industry:

- Current status and prospects
- Small and cottage industry
- Agriculture processing industry
- Rural tourism

Unit - IV. Major Factors of Production in Rural Economy of Nepal 25 teaching hours

1. Land:

- Land distribution pattern
- Land subdivision and fragunentaion
- Land use pattern in agriculure
- Land tenure system
- Land Reforms Act 1964 .

2. Labour:

- Rural labor force by occupation and sectors,
- Employment of male, female and child labor
- Mode of employment - casual, permanent, Kamaiya system etc.
- Level and means of wage payment.

3. Credit Situation in Rural Areas:

- Organized and unorganized sources of eredit: Banks, Cooperatives, Credit-saving, Groups etc.
- Rural indebtedness

Unit-V. Rural Infrastructure

1. Physical Infrastructure : Roads, Irrigation, Electricity and Communication

20 teaching hours

- Role and Importance of irrigation facilities in rural sectors
- Importance and availability of rural roads
- Communication - telephone and postal facilities

- Current status of rural electrification.

2. Social Infrastructure: Health, Sanitation, & Education 10 teaching hours.

- Importance of health related services
- Importance & availability of education facilities

Unit - VI. Rural Resources 10 teaching hours

- Water: drinking water situation
- Forest: government, community and private forestry
- Community Land : use, maintenance and mangement.

Unit - VII. Rural Institutions 10 teaching hours

- Role and importance of VDC, DOC, cooperatives, NGOs and CBOs
- Sources of revenue of VDC, DDC, CBO
- Local level planning procedures : VDC, DDC, CBOs
  (CBO - Community Based Organizations)

Unit VII. Rural Marketing 10 teachinh hours

- Meaning and importance of rural marketing
- Agricultural marketing practices: petty traders, Haat Bazars, Millers
- Role of cooperatives in rural marketing

Unit-IX: Rural Poverty 10 teaching hours

- Meaning extent and causes
- Poverty alleviation target and strategy in current plan

V. Reference books:

1. **लुईटेल, चक्रपाणी, २०५७, गाम्रीण अर्थशास्त्र, भुँडीपुराण प्रकाशन, काठमाडौँ ।**
2. Don and Verma, *Economics Theory*
3. **प्रारम्भिक अर्थशास्त्र ।**
4. Jha, Dr. K.K., 1978, *Agriculture Finance in Nepal,* Heritage Publication, New Delhi.
5. Finance Ministry, *Economy Theory 9th Plan.*
6. G.B.S., *A Pocket Book of Statistics.*
7. Shrestha, Dr. B.P., *Nepalese Economic.*
8. **न्यौपाने, गुरूप्रसाद, नेपालको अर्थशास्त्र ।**
9. Sharma, Dr .. G.N., 1989, *A Micro-economic Study of Nepalese Plan Performance,* Nirala Publication, New Delhi.

GENDER STUDIES
Grade: XII

Teaching Hours: 150
Full Marks: 100
Pass Marks: 35

1. Introduction

This course is designed to introduce gender as a new knowledge in understanding family, society and the state in the context that has direct implication for the development of the country. It consists of five units related to family, gender, socializatron, women's status & rights, violence against women, policies and programs, and international commitments related to gender and development.

2. General Objective

The general objective of this course is to equip the students of higher secondary level with the knowledge and understanding of gender related issues in development such as .gender equality and the empowerment of women.

3. Specific Objectives

On completion of the course, the students will be able to:

1. express the concepts of family and its role and responsibilities in gender and development;
2. discuss the concept of sex and gender, and existing and changing gender roles;
3. discuss the gendered socializations, its modes and agencies of gender socialization;
4. analyze the gender relation by social institutions;
5. explain the concept of Patriarchy in existing social institutions;
6. discuss the concepts and needs of gender equity, gender equality and empowerment of women;
7. explain the concept of Feminism as a response to Patriarch and resulting discrimination against women;
8. discuss the concept of development and relation to gender and development;
9. identify the multiple roles of women in development;
10. identify the problems and consequences of gender discrimination and its solution;
11. identify development indicators, and gender and development indicators;
12. discuss the challenges to the Nepalese women;
13. disseminate knowledge on women's rights with reference to Nepal;
14. explain the causes, consequences and control measures of women/girls trafficking with reference to Nepal;
15. explain the policies, programmes and activities relating to gender and development and empowerment of women; and

16. disseminate knowledge on national commitments and international Conventions and Conferences on women and gender equality.

4. Course Contents

Unit I

Family and Gender **Teaching hrs: 35**

A. Family

1. Concept and structure of family
2. Types of family
   a. Nuclear
   b. Joint
3. Family system in Nepal
4. Division of roles and responsibilities in the family

B. Gender

1. Basic concept of sex and gender
2. Terminologies used in gender
   a. Gender discrimination
   b. Gender subordination
   c. Gender power relations
   d. Gender equity
   e. Gender equality
   f. Gender based violence
3. Gender discrimination in the context of Nepal
4. Changing gender roles

Unit II

Socialization and Gender **Teaching hrs: 30**

1. Concept of socialization and gendered socioliization
2. Agencies of socialization
   a. Family
   b. Community
   c. School
   d. State
   e. Religion
   f. Market
   g. Media
3. Modes of gender socialization
   a. Coercive
   b. Motivation/Encouragement
4. Patriarchy and gender socialization

5. Feminism: response to Patriarchy

Unit III

Status of Women and Women's Rights **Teaching hrs: 35**

1. Status of women in Nepal
    a. Cultural
    b. Social
    c. Economic
    d. Political
    e. Legal
2. Challenges to the Nepalese women
    a. Violence against women (VAW)
        i. Definition and forms of VAW in the Constitution
        ii. VAW in Gender Equality Act- 2006
    b. Women/Girls trafficking
        i. Issues and extent
        ii. Legal measures
3. Concepts of women's rights
    i. Education
    ii. Employment
    iii. Property
    iv. Marriage and divorce
    v. Abortion
    vi. Health and reproductive rights
    vii. Citizenship
    viii. Decision making and policy making

Unit IV

Gender and Develdprnent **Teaching Hours: 20**

1. Basic concept of development, and gender and development
2. Indicators of development
a. Physical quality of life index (PQLI)
b. Human development index (HDI)
c. Human poverty index (HPI)
3. Concept of empowerment of women
a. Gender related development index (GDI)
b. Gender empowerment measure (GEM)
4. Multiple roles of women in development
a. Reproductive role
b. Productive role
c. Community/Social role

d. Constituency role

5. Gender mainstreaming in development

a. C6ncept

b. Tools

Unit V

Gender and Development Policy Initiatives **Teaching Hours: 30**

1. National policies and programmes for gender equality and empowerment of women

a. National periodic plans

b. Sectoral policies and plans

2. International Year of Women and Conferences on Women.

a. UN Year of Women- 1975

b. First World Conference on Women -Mexico City (1975)

c. Second World Conference on Women - Copenhagen (1980)

d. Third World Conference on Women- Nairobi (1985)

e. Fourth World Conference on Women - Beijing (1995)

3. International Conventions and Declarations for women's rights and gender equality

a. Convention on the elimination of all form of discrimination against women (CEDAW)

b. Beijing platform for actions (BPFA)

c. Millennium development goals (MDG)

5. Evaluation Scheme

Students' level of understanding will be evaluated on the basis of written examination with duration of three hours as mentioned below:-

S.N	Nature of Questions	Total questions to be asked	Required no of questions to be attempted	Weightage (each)
1	Long answer questions	4	3	10x3=30
2	Short answer questions	10	8	8x5=40
3	Short note answer questions	12	10	3x10=30
	Total	26	21	100

6. Instructional Materials:-

- Journals/Magazines
- Reference books
- Relevant acts of the government of Nepal
- Periodic reports

- Survey reports
- Government periodic plans
- Other relevant available materials
- Audio-visual aids

7. Instructional Techniques

- Lecturer
- Demonstration
- Problem solving
- Value clarification
- Discussion
- Pair work
- Group work
- Project work
- Field visit/observation
- Participatory approach

Note: Text book to be prepared by the Subject Committee.

8. Reference books:

1. Acharya, M. (2007); Gender Equality and Empowerment of Women: An Update, Kathmandu, UNFPA. ,
2. Acharya, M.. (2003); Efforts at Promotion of Women in Nepal Kathmandu, Tanka Prasad Acharya Memorial Foundation(TPMF) Friedrich -EbertStiftung(FES).
3. Bhasin, K. (1991); Some Question on Feminism, New Delhi: Kali for Women.
4. Bhasin, K. (2000);Understanding Gender, New Delhi: Kali for Women.
5. CBS/HMGN/ICIMOD/SNV, (2003); Districts of Nepal Indicators of Development, Kathmandu,CBS.
6. CBS/HMGN/ICIMOD/SNV, (2003); Mapping : Nepal Census Indicators 2002 & Trends, Kathmandu, CBS.
7. CBS (2003/4); Population Monograph of Nepal , Kathmandu, CBS.
8. CBS (2003/4); Nepal Living Standard Survey.
9. Interim Constitution - 2007.
10. Kimmel, Michael S. (2000); The Gendered Society, New York : Oxford University Press.
11. Ministry of Women, Children & Social Welfare, (2004); National Plan of Action on Convention on the Elimination of All Forms of Discrimination Against women (CEDAW).

12. Ministry of Women, Children & Social Welfare, (2004); National Plan of Action on Convention on Gender Equality and Women Empowerment.
13. HMGN; Muluki Ain-2020(Civil Code of Nepal)
14. HMGN (2002); Eleventh Amendment of the Civil Code of Nepal.
15. National Planning Commission, His Majesty's Government of Nepal, Interim Plan (2008-2011).
16. NPC/UNDP (2004): Nepal Human Development Report 2004: Empowerment and Poverty· Reduction.
17. UNDP (1995); Human Development Report.
18. UNICEF Publications, Different Years.
19. All Editions of "Mahila Shikshya" , Published by Women's Section, Department of education

FOOD AND NUTRITION

Grade: XII

Full marks: 100 (80T +20P)
Teaching hours : 150 hrs
Theory : 120 hrs, Practical : 30 hrs

1. Introduction:

Food is the first and the foremost among the six basic human needs. Food is consumed in order to provide nourishment to the body for its proper functioning. Improper food intake results in various forms of health hazards leading to poor physical and mental growth and development. Hence the knowledge of this subject is essential to all human beings specifically to those students who plan to study medical sciences, food technology, hotel management, dietetics and nursing for their graduation because this course provides basic knowledge of foods as well as nutrition in relation to health and disease, food science and technology and food microbiology.
The entire course is divided into five units - four units in theory and one unit in practical. Each unit carries 20 marks and 30 teaching hours.

2. General Objective:

The general objectives of this course are to enable the students to understand the concept and to acquire knowledge of basic food and nutrition, nutritive value of food and diet planning, nutrition health and diseased conductions and nutritional improvement by food preservations and processing.

3. Specific Objectives:

After completing this course, the students will be able to:

- write the functions of three basic food groups with examples;
- classify nutrients with functions and food sources;
- prescribe RDA for children and adolescent boys and girls;
- calculate nutritive value of commonly used food items;
- explain various forms of malnutrition and its situation in Nepal;
- describe the dietary management for adolescent person on the basis of their BMI and also for diabetic patient;
- explain different methods of food preservation and processing;
- identify the cause of food spoilage and food poisoning;
- conduct market survey of various food items and calculate their nutritive value,
- prepare proper food handling guidelines for local community;
- write about various forms of malnutrition and its situation in Nepalese context;

- differentiate between underweight, overweight and obese adolescent according to Body Mass Index;
- explain dietary management for diabetic patient;
- discuss the relationship between nutrition and worm infestation;
- describe diarrhea infection and oral dehydration therapy;
- write the importance of balanced diet;
- explain about RDA for children and adolescent boys and girls;
- describe the factors affecting meal planning;
- write about the adolescent person's food habit and suggest for its nutritional improvement;
- identify the low cost nutritious traditional food items;
- tabulate the nutritive value of commonly used food iterns;
- define the processing and preservation of food;
- introduce the importance of processing and preservation of food;
- describe the types of preservation;
- explain the methods of food preservation;
- write the causes of food spoilage;
- mention the causes of food poisoning and food infection ;
- explain the methods of food processing;
- calculate BMI (Body Mass Index) for adolescent boys and girls;
- prepare chart on three basic food groups by introducing locally available food sources;
- conduct market survey of traditional food items and prepare a chart with their nutrient contents; and
- carry out a study on local practices of food handling and give proper food handling guidelines to the people.

4. Course Content

Unit I

Basics of Foods & Nutrition **Teaching hours: 30**

a) Introduction to Foods and Nutrition **Teaching hours 10**

i. Definition of Terminologies in Foods and Nutrition - (food, nutrition, nutrients energy, calorie, anabolism, catabolism, metabolism, basal - metabolism, body mass index (BMI),

recommended dietary allowances (RDA), mal - nutrition, under nutrition, over nutrition, stunting, wasting, under weight, over weight, obese, obesity, micro nutrients, macro nutrients.

ii. Functions of food and nutrition.

iii. Functions of nutrients in human body.

b) Three Basic Food Groups Teaching hours 12

i. Carbohydrate and fat rich foods - cereals, roots and tubers, fats and oils, nuts and oil seeds.

ii. Protein rich foods - legumes and pubes, milk and milk products, meat, fish and poultry.

iii. Vitamins and Minerals rich foods- vegetables and fruits.

c) Types of nutrients and its classification Teaching hours 8

i. Macro nutrients - carbohydrate, protein, fat, calcium and phosphorus.
Micro nutrients - Iron, iodine, sodium, potassium and vitamins.
Energy giving food - (carbohydrates, fats and oils) - introduction, functions and food sources

ii. Body building and maintaining food -(Protein) - introduction, functions and food sources

iii. Body protecting and regulating foods - (vitamins and minerals) - introduction, functions and food sources

iv. Nutritional composition of human body (as percentage of protein, carbohydrate, fats, vitamins, minerals and water).

5. Teaching Methodology

Lecture, discussion, demonstration of charts, posters for three basic food groups, demonstration of actual food materials in three basic food groups./ observation/field visits/ group work.

6. Teaching Materials

Charts, posters and actual food materials of related topics.

7. Evaluation Technique

Question answer in the class, home assignment, class test, unit test in the class after completion of the unit.

UNIT II

Nutritive Value of food and diet planning Teachingh hrs: 30

Course Content

		T.H.
a.	Balanced diet - introduction and importance	4
b.	Recommended Dietary Allowances IRDA) - introduction, RDA for children (1-5 years) and adolescent boys and girls (15-18 yrs)	6

c.	Food habit of adolescents and nutritional consideration ways and means to improve nutritional quality of adolescent's diet.	4
d.	Meal planning - introduction, factors affecting meal planning, meal planning for children (1-5yrs) and adolescents (15-18 yrs).	8
e.	Low cost, nutritious traditional food items and their nutritive value.	4
f.	Nutritive value of commonly used food items (carbohydrate, protein, fat, calorie, vitamin A, vitamin C, iron, calcium, phosphorus)	4

Teaching Methodology:

Lecture using actual traditional food items, discussion for active participation of the students, demonstration by using charts wherever possible and traditional food items.

Teaching Materials:

- Charts, posters of balanced diet and RDA
- Pictures of traditional food items or actual food items.
- Book or chart consisting of nutritive value of commonly used food items.

Evaluation technique:

Class test, home assignment, group interactions.

UNIT III:

Nutrition in health and diseased conditions **Teaching hours: 30**

Course Content:

a) Malnutrition - introduction, types -under nutrition, over nutrition, causes and situation in Nepalese Context. Teaching hrs : 4

b) Nutritional deficiency diseases - causes and dietary treatment. Teaching hours :10

i. Protein energy malnutrition - kwashiorkor and marines.
ii. Vitamin A deficiency - Night blindness and Exophthalmia
iii. Iron deficiency - anemia·
iv. Iodine deficiency - goiter

c) Body Mass Index (BMI) - introduction, cut off point in BMI, dietary management for underweight, overweight and obese adolescent. Teaching hours 4

d) Nutrition for diabetic person - introduction and dietary management. Teaching hours: 6

e) Nutrition and worm infestation. Teaching hours: 6

i) Worm infestation - introduction and causes

ii) Relationship between nutrition and worm infestation.

iii)Ways to control worm infestation by sing de worming tablets.

iv)Diarrhoea infection and principle of oral dehydration therapy.

Teaching Methodology:

Lecture, Interactions between teachers and students,. Demonstration by using charts whatever possible

Teaching Materials
Posters of deficiency diseases, Charts of protocols of de-worming tablets, ORS.

Evaluation Technique:
Class test, home assignment and group interactions.

UNIT IV:

Nutritional improvement by food preservation and processing

Teaching hours: 30

Course Contents:

Food preservation **Teaching hours : 10**

Introduction, types, methods -

- traditional methods - sun drying, smoking, by the use of spices, oil, sugar and salt.
- modern methods - use of high temperature - (solar drying, electric drying). - use of low temperature - (Refrigeration) and - canning and bottling.

b) Food Spoilage **Teaching hours: 6**

Causes, types of spoilage- microbial spoilage, autolysis

i. Spoilage of fresh foods
ii. Selection of fresh foods

c) Food poisoning and food borne infection **Teaching hours : 7**

i. Food poisoning - introduction, causes and types
ii. Food borne infectidn - Introduction, causes and types.
iii. Food hygiene and sanitary handling of food.

d) Food processing to improve nutritional quality **Teaching hrs: 7**

Fermentation, germination, fortification (in industrial scale) and combination introduction, processing methods and increase in nutrient content with examples.

Teaching Methodology:
Lecture, Group discussion, Home assignment, Demonstration by the use of actual food items

Teaching Materials:
posters and charts

Evaluation Technique:
Class test, Question answer in the class and home assignment.

UNIT V

Practical **Teaching hours: 30**

Course Contents:

a. Calculation of BMI (Body Mass Index) for adolescent boys and girls (4 cases).

Teaching hours : 2

b. Preparation of charts on three basic food groups with locally available food sources.

Teaching hours : 8

c. Market survey of traditional food items and prepare a chart with nutritive value.

Teaching hours : 10

d. Local practices of food handling and proper guidelines for food handling and report writing.

Teaching hours : 10

Teaching Methodology:

Lecture (orientation), Discussion, Demonstration, Chart preparation, Assignment on report writing.

Teaching Materials:

Chart papers and marker pens, sign pens, rulers, Posters/charts (ready made models) of three basic food groups.

Evaluation Techniques:

Class test, Evaluation of charts prepared by students, Evaluation of the report presented by students will be done by the subject teacher internally. No external examiner is required. No final examination will be required

Written Examination	- 100
Theory	- 80 marks
Practical	- 20 marks
Pass marks	-35

8. Reference books:

1. Raheena, Beg am, "A Text Book of Foods, Nutrition & Dietetics", Sterling Publication Pvt. Ltd.
2. Central Food Research Lab "Nutritive value of some Nepali foods." 1997
3. Eleanor NOSS Whitney and Sharon Rady Rolfes, "Understanding Nutrition", Seventh Edition, West Publishing Company 1995.
4. Frazier W.C. (l997) "Food microbiology" Tata McGraw publishing Company Ltd.
5. Gopalan, C "Nutritive Value of Indian foods" (2001).
6. Heathoff DC. " Food microbiology" | third edition Tata McGraw Hill Publishing Company Limited.

7. Barker, Helen, (2002) "Nutrition and Dietetics for Health Care"
8. His Majesty's Government, Ministry of Agriculture "Gharelu".
9. Mudambi Sumati & Rajgopal H.V., "Fundamentals of Food & Nutrition", (third edition), New Age International Ltd.
10. Norman, N. Potter and Joseph H. Hotchkiss, "Food Science", Fifth edition, 1997, Chapman and Hall.
11. Rajalaxmi. R. "Applied Nutrition." (1987).
12. Adhikari, Ramesh Kanta and Miriam Krantz (2002) "Chijd Nutrition and Health."
13. Sharma, I. And Upreti, N. "Paustik Aahar Tatha Sishu Vikas". (1991).
14. Stella, Soundara Raj, "A Text Book of Household Arts", Orient Longman Limited.
15. Krueger, W.W., "Principles of Microbiology", W.B. Saunders Company.
16. Katherine, Wilson Eva D, H. Fisher, Mary E. Fugua " Principles of Nutrition".

Practice Teaching
Grade: XII

Full Marks: 50
Pass Marks: 20
Working Days: 35
Nature of the course: Practical

I. Introduction:

This course is designed for the purpose of developing teaching attitude and skills of student teachers. In practice teaching, the student teacher will be involved in a real situation in formulating instructional objectives, selecting instructional materials and applying them successfully. The course is divided into two phases; pre-practice teaching and actual teaching phases.

II. General Objectives:

This course aims at providing the student teachers with practical experiences in teaching at primary/lower secondary schools of Nepal.

III. Specific Objectives:

On completion of the course the student teachers will be able to:

a. observe demonstration lessons and participate in discussion;
b. prepare teaching lesson plans in comprehensible forms in a workshop programme;
c. plan and conduct classroom teaching effectively;
d. select, construct and use appropriate/instructional materials;
e. execute motivational activities;
f. select and apply appropriate methods of teaching;
g. prepare and use ditierent evaluation tools and techniques;
h. observe and analyze peer's teaching and prepare report with suggestions;
i. arrange for and conduct extra-curricular activities in school; and
j. prepare a case study report.

IV. Required Practical Activities:

Each student teacher is required to accomplish the following two phases during thepractice teaching period and has to pass separately. This period includes two phases:

A. Pre-practice Teaching Phase (Workshop)
B. Practice Teaching Phase (Actual Teaching Phase)

A. Pre-practicc Teaching Phase

a. Attend one day orientation programme,
b. Participate six working days workshop programme with the following activities

- observe at-least one demonstration lesson,

- prepare at-least-ten lesson plans ofPrimary/Lower-secondary level, and teach three lessons at least.
- observe two lessons of peer and filling up the observation form.

B. Practice Teaching Phase (Actual Teaching Phase)

Each student teacher is required to perform the following activities:

a. Observe at least two lessons taught by the subject teacher of co-operating school.
b. Teach at least 20 lessons on concerned subjects of them and 3 lessons must be supervised by the Internal Supervisor.
c. Observe three peer classes and fill up the Peer Observation Form in the presence of internal supervisor.
d. Construct at least 50 different types of test items (Multiple choice - 25, Completion-5, true and false-5, matching test item-2, (Sets) long answer-5 and short answer-5 with answer key).
e. Conduct at least one extra- curricular activities in a group.
f. Prepare & submit a case study report individually.
g. Teach one final lesson in the presence of the extemal examiner.

V. Supervision of Student Teacher:

Supervision and evaluation of Pre-practice Teaching Programme will be carried out by the internal supervisor of Higher Secondary School. Internal supervisor will be responsible for supervising, advising, and examining a group of 10-15 student teache/s in Pre-Practice Teaching phase and Practice Teaching Phase. At least two lessons taught by student teacher will be supervised every week and followed by discussion. Trained head teacher or senior teacher of co-operating school will be encouraged for fulfilling supervisory responsibilities.

VI. Evaluation of Student Teacher:

Both the Intemal Supervisor and Extemal Examiner will evaluate the student teachers.

Evaluation Criteria		**Weightage**
A. Pre-practice Teaching Phase (Workshop)		20% (Internal)
B. Practice Teaching Phase (Actual Teaching)		80% (Internal + External)
a. Classroom observation	40%	
b. Report evaluation	20%	
c. Viva	20%	

VII. References:

- ढकाल, माधवप्रसाद (२०६१), **अभ्यास शिक्षण: अवधारणा र अभ्यास**, काठमाडौँ: रत्न पुस्तक भण्डार ।
- Gronlund, Norman E. (1970), **Stating Behavioural Objectives for Classroom Instruction,** London: Mac Millan Company.
- O.L., Adam (1956), **Student Teaching,** New York: The Centre of Applied Research in Education.

Instructional Evaluation
Grade: XII

Full Marks: 50
Teaching Hrs: 75

I. Introduction

This is a theoretical course designed to develop knowledge and experience in instructional evaluation. It introduces some tools and techniques essential for instructional evaluation in the primary and lower secondary levels. It also provides knowledge and skills in construction of simple classroom tests.

II. General Objectives

The general objectives of this course are to:

1. develop understanding of the purpose, ways and means of instructional evaluation at the primary and lower secondary levels;
2. develop knowledge and skills in developing, administering, and scoring a teacher made test, and in analyzing and using test results; and
3. make familiar with the development and problems of instructional evaluation of primary and lower secondary level education in Nepal.

III. Specific Objectives

On completion of this course students will be able to:

1. explain the meaning of instructional evaluation;
2. distinguish between measurement and evaluation;
3. describe purpose and types of evaluation;
4. write specific objectives of knowledge, understanding, application and skills level ability;
5. develop specification chart;
6. construct long answer type questions for assessing behaviors representing knowledge, understanding, application and skills;
7. construct short answer and objective type of questions representing knowledge, understanding, application and skills;
8. prepare direction for the test administration;
9. prepare scoring guidelines;
10. score and appraise the test items;
11. prepare test results;
12. interpret the scores;
13. perform simple item analysis using graphs and central tendency;
14. use test results as feedback for instructional improvement and for correcting students' errors;
15. describe the qualities of a test;
16. describe briefly the instructional evaluation schemes of primary and lower secondary school levels in NESP, BPEP, NCF and SSR in Nepal; and

17. identify the problems and issues related to instructional evaluation at primary and lower secondary levels in Nepal.

IV. Course Contents

Unit I: Concept oflnstructional Evaluation 5 hrs

1. Meaning and definition of instructional evaluation
2. Relationship between instruction and evaluation
3. Differences between measurement and evaluation
4. Purposes of evaluation

- grading and placement
- certifying
- diagnosis and instructional improvement
- promotion of learning

5. Types of evaluation- formative and summative (meaning, purpose, frequency of use and tools used)

Unit II: Planning the Instructional Evaluation Tools 10 hrs

1. Determining the objectives

- General and specific objectives (Concept and examples)
- Levels of objectives- knowledge, comprehension and application
- Writing specific objectives (According to criteria and levels)

2. Preparing a table of specification (Meaning and specimen)
3. Writing relevant test items
4. Assembling the test
5. Providing a definite format to the test

Unit III: Instructional Evaluation Tools and Its Construction 25 hrs

1. Types of tools (only examples, uses and limitations)

- Written tests (objective types- multiple choice, true false, matching, and completion, short answer, and essay questions and its types)
- Practical tests
- Oral tests
- Aural tests
- Non-testing devices (observation-rating scale and check list, cumulative record, anecdotal record and portfolio)

2. Construction of evaluation tools (with theory and practice together)

- General guidelines for construction of tools

- Specific guidelines for the construction/maintenance of each type of tools mentioned in 1

Unit IV: Administration, Scoring and Analyzing the Test Result 20 hrs

1. Reviewing and editing
2. Arranging the test items in order of difficulty
3. Preparing direction for the test
4. Conducting the examination - managing exam hall environment, time, teachers roles and solving problems of exam hall
5. Preparing the scoring key for both essay and objective tests
6. Scoring the answer copies
7. Appraising the test items
8. Calculation of mean of students scores and interpretation
9. Representation of group and individual scores in bar and or pie diagrams
10. Use of test results for

- correcting the error made by the students,
- providing feedback to the teachers for instructional improvement,
- grading and grouping for instructional purposes and
- promoting students to upper grade

Unit V: Essential Characteristics of a Test 5 hrs

1. Reliability: Meaning and example only
2. Validity: Meaning and example only
3. Objectivity
4. Efficiency
5. Comprehensiveness
6. Usability

Unit VI: Instructional Evaluation Scheme at Primary and Lower Secondary School Levels in Nepal: 10 hrs

1. Instructional evaluation scheme at primary level in the following time:

- During NESP
- During BPEP I and II
- Currently
- As proposed in National Curriculum Framework 2006
- As proposed in SSRP

2. Problems and issues of instructional evaluation at primary and lower secondary levels.
3. Suggestions for improving the instructional evaluation of primary and lower secondary levels.

V. Instructional Materials

Following materials may be used:

- The actul test or questions used in previous examinations;
- Specimen of specification chart on different subjects prepared by CDC, HSEB;
- Specimen of different non -testing devices
- Study reports on the evaluation practices in primary and lower secondary grades in Nepal.
- Textbooks

VI. Instructional Process

For clarifying different fundamental concepts such as instruction, evaluation, fonnative or summative evaluation, or reliability, validity, the teacher may start with the questions related to the daily life problems requiring evaluation such as "how the teacher judges how much the students have learnt?", How can you be sure that one kilogram of sugar weighs one kilogram?" With such types of questions the teacher will relate to the main concepts.

In the content requiring skills, the teacher will encourage the students to involve in the actual work such as writing objectives representing different ability including knowledge, understanding, skills etc., preparing specificati6n grid on different subjects, preparing questions of different types on different subjects.

Regarding the evaluation practices in Nepal, the teacher will provide information or encourage the students to collect the information from different sources DOE, school teachers, self reflection and the near by schools.

VII. Reference books:

1. Ebel, R.L. & Frisbie, D.A. (1991), *Essentials of Measurement in Evaluation,* Prentice Hall, New Delhi, India.
2. Freeman, R, and Lewis, R. (1998), First Indian Reprint (2005), *Planning and Implementing Assessment,* India: Kogan Page Limited.
3. Linn, R.L. and Miller, M.D. (2005), *Measurement and Assessment in Teaching,* India: Darling Kindersley (India) Pvt. Ltd. New Delhi.
4. Govemment of Nepal, Ministry of Education and Sports, Curriculum Development Center (2005), *National Curriculum Framework for School Education in Nepal,* SSRP Core document, Kathmandu, Nepal: Author.
5. Adhikari, Balkrishna, et.al., Instructional Evaluation-XII, Quest Publication, ktm
6. Aacharya, Rajendra Kumm·, Instructional Evaluation-XII, Bhundipuran Prakashan, ktm

सङ्गीत (इच्छाधीन चतुर्थ)

कक्षा १२

पूर्णाङ्क: १००
कक्षा भार: १५० घण्टा
उत्तीर्णाङ्क: ४०

१.परिचय : यो पाठ्यक्रम सङ्गीत गायन, वादन (बाँसुरी, भायोलिन, सरोद, सितार, कीवोर्ड, इशराज र गितार) विषयको ज्ञान प्रदान गर्ने र उच्च तहमा सङ्गीत अध्ययन गर्न चाहने विद्यार्थीहरूको लागि पूर्वाधार तयार पार्ने दृष्टिकोण राखी बनाइएको हो । तसर्थ, यसमा प्रारम्भिक तहभन्दा केही माथिका विषय वस्तुहरूलाई समावेश गरिएको छ । यसले गायन र वादनको शैद्धान्तिक र व्यवहारिक पक्षसमावेश गरेको छ ।

२.साधारण उद्देश्य :
यो विषयले बाँसुरी, भायोलिन, सरोद, सितार, कीवोर्ड, इशराज, गितार सम्बन्धी आधारभूत जानकारी गराउँदछ ।

३.विशिष्ट उद्देश्य :
यो विषय अध्ययन गरिसकेपछि विद्यार्थीहरू निम्न लिखित पक्षहरूमा सक्षम हुनेछन् :

१. शास्त्रीय सङ्गीतको सैद्धान्तिक पक्षहरू बताउन ।
२. रागको परिचय दिन ।
३. लोक सङ्गीतको परिचय दिई सैद्धान्तिक पक्ष बताउन ।
४. स्वर तथा अलंकारको अभ्यास गर्न ।
५. लोक सङ्गीतको अभ्यास गर्न ।
६. तवलाको परिचय दिई अंग वर्णन, वर्ण विकास तथा विधि बताउन ।
७. विष्णु दिगम्बर पद्धति, भात खण्डे पद्धति र ताल पद्धती बताइ ठाह र दुगुन लयमा लेख्ने ।
८. तवला वादकको जीवनी लेख्न ।
९. लोक वाद्यको परिचय र योगदान बताउन ।
१०. तवला वादनको प्रयोग गर्न ।
११. नेपाली लोक वादकहरूको परिचय दिई योगदानको व्याख्या गर्न ।

शास्त्रिय तथा लोक सङ्गीत

पूर्णाङ्क : ३०
उत्तीर्णाङ्क : १२
कक्षाभार ४५ घण्टा
अंक १८

खण्ड (क) शास्त्रीय शैद्धान्तिक

१. नादको परिभाषा तथा यसका गुणहरू
२. सङ्गीतको संक्षिप्त इतिहास र परिचय
३. भातखण्डे तथा विष्णु दिगम्बर पलुस्करको स्वरलिपी पद्धतिको सामान्य ज्ञान
४. रागको परिचय : (क) मारवा (ख) तोडी (ग) शुद्ध कल्याण
५. तालको परिचय : (क) रुपक (ख) कहरवा (ग) चौताल

उपयुक्त रागका गीत र गतलाई भातखण्डे स्वरलिपि अनुसार लेख्न सक्ने ज्ञान ।

खण्ड (ख) लोक सङ्गीत शैद्धान्तिक **अंक १२**

६. लोक सङ्गीतबारे विद्धानहरूको भनाई द्वयतष्कज :बअभिथ (अमेरिका), कुँज विहारीदाश, राम नरेश त्रिपाठी ।

७. लोकगीतको परिचय : क. मालश्री ख. बालन ग. संगिनी घ. स्थानिय कुनै एक लोकगीतको परिचय ।

८. नेपाली लोक बजाको संक्षिप्त परिचय : क. मुरली ख. ढोलक ग. खैजडी

प्रयोगात्मक खण्ड

पूर्णाङ्क :२० **उत्तिर्णाङ्कः ८** **कक्षाभार ३० घण्टा**

खण्ड (क) स्वर तथा अलंकारको अभ्यास (विभिन्न लयमा) **अंक १५**

१. राग अभ्यास : निम्न लिखित रागहरू मध्ये कुनै एकमा विलम्बित लयको ख्याल तथा मध्यलयको ख्याल अन्त्यमा मध्य लयको ख्याल आवश्यक अंग सहित गाउने अभ्यास तथा वादनमा कुनै एक रागमा मसितखानी गत र रजाखानी गत तोडा तथा झाला सहित र अन्य रागमा रजाखानी गत तोडा तथा झाला सहति बजाउने अभ्यास । क. शद्ध कल्याण ख. मारवा ग. तोडी

२. ताल अभ्यास : निम्न लिखित तालहरूलाई बोलीका साथ हातमा ताली दिएर सम, खाली, भरि, आदि देखाउन सक्ने अभ्यास । क. रुपक ख. चौताल ग. कहरवा ।

खण्ड ख) लोक सङ्गीत अंक ५

३. क. मालश्री ख. बालन ग. संगिनी घ. स्थानीय कुनै एक लोकगीत गाउने बजाउने अभ्यास ।

४. प्रचलित कुनै दुई लोक तालहरू मादलमा बजाउने अभ्यास ।

तबला बादन तथा नेपाली बाद्य खण्ड

पूर्णाङ्क : ३० **उत्तिर्णाङ्कः १२** **कक्षाभार ४५ घण्टा**

खण्ड (क) तबला बादन सैद्धान्तिक अंक २०

१. तबलको संक्षिप्त इतिहास र परिचय ।

२. तबलाको संक्षिप्त अंग वर्णन (बनावट)

३. तबलाको दस वर्ण विकास विधी र परिभाषा
(ताल, मात्रा, विभाग, सम, ताली, खाली, कायदा र तिहाई)

४. बिष्णु दिगम्बर पद्धति, भातखण्डे पद्धति र ताल पद्धतिका सामान्य ज्ञानका साथै पाठ्यक्रमका तालहरूलाई कुनै एक पद्धतिमा लेख्ने अभ्यास (ठाह र दुगुन लयमा)

५. नेपालका तबला बादकको जीवनी (क) प्रा. काली प्रसाद शर्मा (ख) श्री झुमकलाल मिश्र

६. क. त्रिताल ख. कहरवा ग. दादरा घ. एकतालको परिचय

खण्ड (ख) नेपाली लोक बाद्य **अंक १०**

७. नेपाली लोक बाद्यको परिचय :

क) अवनद्य बाद्य : मादल, खी: धिमे

ख) घन वाद्य : भुस्या, ता

ग) शुषिर बाद्य : बाँसुरी, सनाई

घ) तन्तु बाद्य : सारंगी, ओडनी, टुंगना

८. नेपाली लोक बाद्य कारको परिचय तथा उनीहरूको योगदान :

क) श्री न्हुच्छेमान डंगोल

ख) श्री कृष्ण भाई महर्जन ।

प्रयोगात्मक खण्ड

पूर्णाङ्क :२० **उत्तीर्णाङ्क : ८** **कक्षाभार ३० घण्टा**

खण्ड (क) तबला बादनको प्रयोगात्म अंक १०

१. तबलाका १० वर्णको विकास र तिनीहरूको अभ्यास ।

२. तबलामा त्रिताल, दादरा, कहरवा र एकतालमा ठाह, दुगुन, तिगुन लयकारी बोल्ने र बजाउने अभ्यास ।

३. त्रितालमा १ वटा प्रारम्भिक कायदा, १ वटा विशेष किसिमको कायदा ४ वटा पल्टा र तिहाईको अभ्यास

४. त्रितालमा १।१ वटा मुखडा, टुकडा, चक्रदार टुकडाको अभ्यास ।

५. त्रिताल कहरवा, दादरा र एकताल तबला बजाउने अभ्यास ।

खण्ड (ख) नेपाली लोक बाद्य **अंक १०**

६. झयाउरे, चुड्का गीतमा मादल बजाउने अभ्यास

७. नेपाली लोक गीतमा सङ्गीतमा अभ्यास गर्ने अभ्यास ।

८. मादलमा सोरठी गीत तथा अन्य कुनै दुई गीतमा बजाउने अभ्यास ।

Fine Arts: History of Arts
Grade: XII

Code No.: 944 Full Marks: 100
Teaching Hours: 150

I. Introduction

This course is designed for grade XII students offering History of Arts as an elective subject. This course is designed as a link between the secondary level and the bachelor's level at the universities, It has two parts: theoretical (75%) and Practical (25%). The students are required to get through both the parts separately. The students undertake core theoretical units and field visits throughout the course.

II. General Objectives

The General objectives of the course are:

1. to acquaint students with the visual cultures of the past, and
2. to enable students understanding his/her relationship to his/her own time and the technologies to his/her artistic predecessors.

III. Specific Objectives

On completion of the course, the students will be able:

1. to explain a brief history of the prehistoric Western European Art.
2. to explain a brief history of the art of the ancient civilization of mesopotamia,
3. to explain a brief history of the art of the ancient civilization of Egypt.
4. to explain a brief history of the art of the ancient Greece,
5. to explain a brief history of the art of the ancient Rome,
6. to explain a brief history of the art of the ancient India, and
7. to explain a brief history of the art of the Lichhavi Period and the Medieval period of Nepal.

IV. Course Scheme

Course Topics	Narjis Distribution		Teaching hours		Minimum no. of works to be submitted by each student
	Theory	Practical	Theory	Practical	
1. Prehistoric Western Arts	12		22 hrs		
2. Mesopotamia	12		22 hrs		
3. Ancient Egypt	12		22 hrs		
4. Ancient Greece	12		22 hrs		
5. Indian Arts	12		22 hrs		
6. Art of Nepal	12		22 hrs		
7. Field Visit		25		10 hrs	
Total	**75**	**25**	**140 hrs**	**10 hrs**	

V. Course Contents

1. Prehistoric Western Arts
    - 1.1 Stone age Sculpture; of Willendorf, Venue of Laussel and Venus of Lespugue
    - 1.2. Cave Painting' Altamira, Lascaux, Font De-Gaume Cave, Cosquer Cave, Pech-Merle and Chauvet
2. Mesopotamia
    - 2.1 The Uruk period
    - 2.2 Sumer
    - 2.3 Akkad
    - 2.4 Neo-Sumerian
    - 2.5 Babylon

3. Ancient Egypt
    - 3.1 The Old kingdom: Pyramids and sculpture
    - 3.2 The New Kingdom: temples and painting
    - 3.3 Tutankamen's tomb
4. Ancient Greece
    - 4.1 Painting and Pottery
    - 4.2 Sculpture
    - 4.3 Classical Architecture
    - 4.4 Late Classical Style
    - 4.5 Hellenistic Period
5. Ancient Rome
    - 5.1 Archittecture
    - 5.2 Sculpture
    - 5.3 Mural Painting
6. Indian Arts
    - 6.1 Indus Valley civilization: town planning, sculpture, seals and pottery and painting
    - 6.2 The Maurya Period: architecture (cave Chaitya and stupa) and sculpture
    - 6.3 The Sunga period and the Satvahana period: the great stupa of Sanchi
    - 6.4 The Kushan period: Mathura art, Amarawati art and Gandhar Art
    - 6.5 The Gupta Period: sculpture, temples and caves

VI. Instructional Strategies

1. Lectures
2. Visual aids
3. Discussions
4. seminars
5. Field Visits
6. Written exercises and tests

7. Demonstrations

VII. Evaluation Scheme

Practical : 75

Theory: 25

1. History of Arts (Practical)

Course Topic	Full Marks	Pass Marks
1. Writing a report on the basis of visiting museums, art galleries and exhibitions	25	10

2. History of Arts (Theory)

Long Answer questions		**Short answer question**		**Marks Distribution**	
Questions to be asked	Answers to be written	Questions to be asked	Answers to be written	Long Answer questions	Short answer question
2	1	4	3	10x1=10	3x5=15

VIII. Prescribed texts

Course materials and books related to the theory subjects are to be written integrating every topic of the course for which experts could be assigned after the approval of the course from the HSEB authority.

IX. Reference Books.

1. मिश्र, मनुजबाबु (वि.सं. २०३६० । विश्वकलाको इतिहास । त्रिभुवन विश्वविद्यालय ।
2. मैनाली, लय (वि.सं. २०६२) । विश्वकला : सभ्यता, शैली र वादहरू ।
3. बज्रचार्य, मनबज्र (वि.सं. २०३२) । मध्यकालिन नेपाली कला । सूचना विभाग ।
4. Slusser, Mary Shepherd (1996). Mandala: A Cultral Study of the Kathmandu Valley. Vol. I and Vol II. Madala Book Point.
5. Pal, Pratapaditya (1985). Art of Nepal Los Angelos County Museum of Art, California and University of California Press: Berkely and London.