Major- 2 - Math

(1)

Syllabus for B.A /B.Sc. Mathematics as Major Subject &

B.A /B.Sc. (Honors) Mathematics

SEMESTER – II

MJ-2: Calculus and Geometry

Unit-I: Differential Calculus: Successive differentiation and Leibnitz Theorem, Partial Differentiation and Euler's Theorem on homogeneous functions, Tangents and Normals, pedal equations, Curvature. [20 Lectures]

Unit-II: Two Dimensional Geometry: - System of Circles, Radical axes, coaxial circles, limiting points, Standard equation of Parabola, Hyperbola and Ellipse, Equations of Tangents and Normals, pair of tangents, Polar equation of Conics. [20 Lectures]

Unit-III: Integral Calculus: Indefinite Integral, Definite Integral, Reduction Formula, Area (Both Cartesian and Polar curve). [20 Lectures]

Unit-IV: Three Dimensional Geometry: - Direction Cosine and Direction ratio, Straight line, Plane, Shortcut distance between two skew Straight line and related problem. [25 Lectures]

Books Recommended

Differential Calculus	: -	Prasad and Mishra
Differential Calculus	: -	Lalji Prasad, Paramount publication, Patna
Integral Calculus	: -	Lalji Prasad, Paramount publication, Patna
Integral Calculus	: -	Das and Mukherjee
Solid Geometry	: -	Lalji Prasad, Paramount publication, Patna
Co-ordinate Geometry	: -	M. L. Khanna

Major-2-phy

(2)

SEMESTER-II

PHY-MJ-2: ELECTRICITY AND MAGNETISM

(Credits: Theory-04, Practicals-02)

Theory: 60 Lectures

Full Marks:

15 (Semester Internal Examination: 1Hr) + 60 (End Semester Examination: 3Hrs) =**75**

Pass Marks:

Semester Internal Examination = **06**

End Semester Examination = **24**

Instruction for evaluation:

Semester Internal Examination (marks:15)

The Semester Internal Examination will have two components:

(b) One Semester Internal Assessment Test of 10 Marks - There will be two group of questions.

- Group A is compulsory which will contain very short answer type consisting of five questions of 1 mark each. **(5×1=5)**
- Group B will contain descriptive type two questions of five marks each, out of which any one to answer. **(1×5=5)**

(b) Class Attendance Score of 5 marks - Conversion of Attendance into score may be as follows:

Attendance	Marks
less than 45%	1
upto 55%	2
upto 65%	3
upto 75%	4
More than 75%	5

End Semester Examination (marks: 60)

There will be two group of questions.

- Group A is compulsory which will contain three questions.
  - Question No.1 will be very short answer type consisting of five questions of 1 mark each. **(5×1=5)**
  - Question No.2 & 3 will be short answer type of 5 marks. **(2×5=10)**
- Group B will contain descriptive type five questions of fifteen marks each, out of which any three are to answer. **(3×15=45)**

Motive of PHY-MJ-2: The objectives of major course of semester-2 are as follows:

1. Better understanding of electrical and magnetic phenomena in daily life.
2. Comprehend various electrical circuits and their use in equipment for powerful applications.
3. Extend the idea of electric and magnetic properties in science and technology.

Outcome of PHY-MJ-2: Upon completion of the mentioned topics, students will be able to

1. Evaluate electric field and potential for different types of charge distributions.
2. Grasp the different aspects of Electromagnetic induction and its applications.
3. To troubleshoot simple problems related to electrical devices.

SYLLABUS OF PHY-MJ-2

Electric Field and Electric Potential: Electric flux. Gauss' law in integral and differential form and its applications. Conservative nature of Electrostatic Field. Laplace's and Poisson equations. The Uniqueness Theorem. Electric field and Potential due to electric dipole and quadrupole. Conductors in an electrostatic Field. Surface charge and force on a conductor. **(10 Lectures)**

Dielectric Properties of Matter: Electric Field in matter. Polarization, Polarizability and electrical susceptibility and Dielectric constant, Displacement vector D. Relations between E, P and D. Clausius Mossotti equation, Gauss' Law in dielectrics. **(15 Lectures)**

Magnetic Properties of Matter: Magnetization vector (M). Magnetic Intensity(H). Magnetic Susceptibility and permeability. Relation between B, H, M. B-H curve and hysteresis. Properties of magnetic materials- Dia, Para and Ferromagnetism, Langevin's theory, Measurement of susceptibility by Quincke's Method. **(15 Lectures)**

Electrical Circuits: AC Circuits: Kirchhoff's laws for AC circuits. Complex Reactance and Impedance. Series LCR Circuit: (1) Resonance, (2) Power Dissipation and (3) Quality Factor, and (4) Band Width. Parallel LCR Circuit. Anderson's bridge, De-Sauty bridge and Cary Foster bridge. Equivalent circuit and vector diagram. Transformer, Losses in transformer. **(12 Lectures)**

Ballistic Galvanometer: Torque on a current Loop. Ballistic Galvanometer: Current and Charge Sensitivity. Electromagnetic damping. Logarithmic damping. **(8 Lectures)**

Reference Books:

1. Electricity, Magnetism & Electromagnetic Theory, S. Mahajan and Choudhury, 2012, Tata McGraw.
2. Introduction to Electrodynamics, D.J. Griffiths, Cambridge University Press.
3. Feynman Lectures Vol.2, R. P. Feynman, R. B. Leighton, M. Sands, 2008, Pearson Education.
4. Electricity and Magnetism by R. K. Tewary, S Chand.

PRACTICAL: PHY-MJ-2-LAB

Full Marks:
End Semester Examination: 3Hrs =**25**
Pass Marks: 10

Instruction for evaluation:
There will be one practical examination of 3Hrs duration. Evaluation of practical examination may be as follows:

Experiment	: 15 marks
Practical record notebook	: 05 marks
Viva-voce	: 05 marks

Motive of PHY-MJ-2-LAB: The objectives of laboratory part of major course of semester-2 are as follows:

1. Hands on experience of different electrical and magnetic components.
2. Develop fundamental skills important for handling electrical circuits.
3. Understanding laboratory practices to ensure a safe laboratory environment.

Outcome of PHY-MJ-2-LAB: Upon completion of the mentioned topics, students will be able to

1. Develop the proficiency in operation and maintenance of instruments.
2. Understand theoretical concepts of electric and magnetic response of various components through experimental finding.
3. Analyse and interpret the recorded observations, calculation and graphs to draw conclusion.

List of Practical: 60 Lectures

1. Use a Multimeter for measuring (a) Resistances, (b) AC and DC Voltages, (c) DC Current, (d) Capacitances, and (e) Checking electrical fuses.
2. To study the characteristics of a series RC Circuit.
3. Measurement of field strength B and its variation in a solenoid (determine dB/dx).
4. To study response curve of a Series LCR circuit and determine its (a) Resonant frequency, (b) Impedance at resonance, (c) Quality factor Q, and (d) Band width.
5. To study the response curve of a parallel LCR circuit and determine its (a) Anti-resonant frequency and (b) Quality factor Q.
6. To visualize the magnetic field produced by several configurations of simple bar magnets using magnetic compasses.
7. Measure ε_0, the permittivity of free space.
8. Investigate the magnetic force between two current carrying wires and measure the permeability constant μ_0.

Mg-2-phy

References:

1. Advanced Practical Physics for students, B.L. Flint and H.T. Worsnop, 1971, Asia Publishing House.
2. A Text Book of Practical Physics, I. Prakash & Ramakrishna, 11th Ed., 2011, Kitab Mahal.
3. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers.
4. A Laboratory Manual of Physics for undergraduate classes, D. P. Khandelwal, 1985, Vani Publication.

Major-2 — (4)

(3)

Learning Outcomes:

On successful completion of this course the student should know:

1. Determination of lattice parameters of given salt.
2. The properties of liquid and measure the viscosity and surface tension
3. Numerical related to salt hydrolysis, ionic equilibria and their applications in laboratory processes.
4. Measurement of pH and applications of buffers in analytical chemistry.

Chemistry Major -2: Physical Chemistry -I

Total Marks: 75(15 Marks Internal Examination + 60 Marks End Semester Examination)

(Gaseous State, Liquid State, Solid State and Ionic Equilibria)

Unit-1 Gaseous State: (25 Lectures)

Kinetic molecular model of a gas: postulates and derivation of the kinetic gas equation, collision frequency, collision diameter, mean free path and viscosity of gases, their temperature and pressure dependence, relation between mean free path and coefficient of viscosity, calculation of σ from η, variation of viscosity with temperature and pressure. Maxwell distribution and its use in evaluating molecular velocities (average, root mean square and most probable) and average kinetic energy, law of equipartition of energy, degrees of freedom and molecular basis of heat capacities.

Behavior of real gases: Deviation from ideal gas behavior, compressibility factor and its variation with pressure for different gases. Causes of deviation from ideal behavior. van der Waals equation of state, its derivation and application in explaining real gas behavior. Boyle's temperature. Isotherms of real gases and their comparison with van der Waals isotherms, continuity of states, critical state, critical and van der Waals constants, law of corresponding states.

Unit-2 Liquid State: (5 Lectures)

Structure and physical properties of liquids, vapour pressure, surface tension, viscosity, and their dependence on temperature. Effect of addition of various solutes on surface tension, cleansing action of detergents.

Unit-3: Solid State: (12 Lectures)

Nature of the solid state, law of constancy of interfacial angles, law of rational indices, Miller indices, elementary ideas of symmetry, symmetry elements and symmetry operations, qualitative idea of point and space groups, seven crystal systems and fourteen Bravais lattices, X-ray diffraction, Bragg's law, a simple account of rotating crystal method and powder pattern method. Analysis of powder diffraction patterns of NaCl, CsCl and KCl. Various types of defects in crystals, Glasses and liquid crystals.

Unit -4 Ionic Equilibria: (18 Lectures)

Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect, dissociation constants of mono-, di- and tri-protic acids.

Salt hydrolysis, hydrolysis constants, degree of hydrolysis and pH of different salt solutions. Buffer solutions, Henderson equation, buffer capacity, buffer range, buffer action, applications of buffers in analytical chemistry, Solubility and solubility product.

Qualitative treatment of acid–base titration curves (calculation of pH at various stages). Theories of indicators, selection of indicators and their limitations. Multistage equilibria in polyelectrolytes.

14.12.22

Reference Books:

1. Atkins, P. W. & Paula, J. de Atkin's Physical Chemistry 8th Ed., Oxford University Press (2006).
2. Ball, D. W. Physical Chemistry Thomson Press, India (2007).
3. Castellan, G. W. Physical Chemistry 4th Ed. Narosa (2004).
4. Mortimer, R. G. Physical Chemistry 3rd Ed. Elsevier: NOIDA, UP (2009). 5 G. M. Barrow, Tata McGraw Hill (Fifth Edition) (2007)
5. Roy, B. N. Fundamentals of Classical and Statistical Thermodynamics Wiley, 2001 6 Commonly Asked Questions in Thermodynamics. CRC Press, 2011

MAJOR PRACTICAL- CHE- MJ 2 LAB (Credits: Practical-02)

Total Marks: 25 (25 Marks End Semester Examination (Total Credit Hours: 60)

Instruction to Question Setter for End Semester Examination (ESE):

There will be one Practical Examination of 4 Hours duration. Evaluation of Practical Examination may be as per the following guidelines:

Experiment-1	**= 12 marks**
Experiment-2	**= 08 marks**
Practical record notebook	**= 03 marks**
Viva-voce	**= 02 marks**

PRACTICALS: 60 Lectures

1. **Surface tension measurements.**
   a. Determine the surface tension by (i) drop number (ii) drop weight method.
   b. Study the variation of surface tension of detergent solutions with concentration.
2. **Viscosity measurements using Ostwald's viscometer.**
   a. Determination of viscosity of aqueous solution of (i) polymer (ii) ethanol and (iii) sugar at room temperature.
   b. Viscosity of sucrose solution with the concentration of solute.
3. **pH metry**
   a. Effect on pH of addition of HCl/ NaOH to solutions of acetic acid, sodium acetate and their mixtures.
   b. Preparation of buffer solutions of different pH
      i. Sodium acetate-acetic acid
      ii. Ammonium chloride-ammonium hydroxide
   c. pH metric titration of (i) strong acid vs. strong base, (ii) weak acid vs. strong base.

Reference Books

1. Khosla, B. D., Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co.: New Delhi (2011).
2. Garland, C. W., Nibler, J. W. & Shoemaker, D. P. Experiments in Physical Chemistry 8th Ed., McGrawHill: New York (2003).
3. Halpern, A. M. & McBane, G. C. Experimental Physical Chemistry 3rd Ed., W.H. Freeman & Co.: New York (2003).
4. Athawale V. D. amd Mathur P. Experimental Physical Chemistry, New Age Intenational (2001)

Major-2- [redacted] Botany

(4)

SEMESTER II

MAJOR COURSE- BOT-MJ-2 **(Credits: Theory-04)**

Total Marks: 75 (15 Marks Internal Examination + 60 Marks End Semester Examination)

Bryophytes, Pteridophytes, Paleobotany and Gymnosperm **Total Credit Hours: 60**

Course objectives:

1. This course will provide knowledge on various fields of basic Botany.
2. The syllabus is prepared to enable students for competitive exams in frontier areas of plant sciences.
3. Students will be able to know about habit, habitat, morphology, anatomy and reproduction of various plant groups.

Course Outcome: After the completion of the course the students will be able to:

1. Develop critical understanding on morphology, anatomy, classification, economic importance, life history and reproduction of Bryophytes, Pteridophytes and Gymnosperms.
2. Understanding of plant evolution and their transition to land habitat.
3. To learn the major patterns of diversity among plants, and the characters and types of data used to classify plants.

Unit 1: Bryophytes: General account, classification, progressive sterilization of sporogeneous tissue, economic importance and life history of *Marchantia, Anthoceros, Sphagnum* and *Polytrichium.*

Unit 2: Pteridophytes: General account, anatomy, stellar evolution, heterospory and seed habit and life history of *Psilotum, Selaginella, Equisetum, Marsilia* and *Pteris.*

Unit 3: Fossil: Types, process of fossilization, importance of fossils, geographical time scale, major sites of fossils in Jharkhand.

Unit 4: General account and life history of *Rhynia, Calamites, Lepidodendron, Pentoxylum* and *Williamsonia.*

Unit 5: Gymnosperm: General account, anatomy, reproduction and comparative account of *Cycas, Pinus, Taxus* and *Gnetum.*

MAJOR PRACTICAL- BOT-MJ 2 LAB **(Credits: Practical-02)**

Total Marks: 25 (25 Marks End Semester Examination) **Total Credit Hours: 60**

Unit 1: Bryophytes: Preparation of temporary slides/permanent slides, enumeration of salient features and identification of *Marchantia, Anthoceros, Sphagnum and Polytrichium.*

Unit 2: Pteridophytes: Preparation of temporary slides/permanent slides, enumeration of salient features and identification of *Psilotum, Selaginella, Equisetum, Marsilia* and *Pteris.*

Unit 3: Fossils: Preparation of temporary slides/permanent slides, enumeration of salient features and identification of *Rhynia, Calamites, Lepidodendron, Pentoxylum* and *Williamsonia.*

Unit 4: Gymnosperm: Preparation of temporary slides/permanent slides, enumeration of salient features and identification of *Cycas, Pinus, Taxus* and *Gnetum.*

MJ-2 Botany

Distribution of marks (Practical):

Experiments		:	10 marks
Spotting	05x 1	:	05 marks
Records/Models/Charts/Herbarium/Tour Report		:	05 marks
Viva Voce		:	05 marks

Suggested Readings:

1. Parihar, N.S. Introduction to Embryophyta (Vol. I Bryophyta), Central Book Distributors
2. Rashid, A. An Introduction to Bryophyta, 1998, Vikas Publishing House
3. Chopra, R.N. & Kumar, P.K. Biology of Bryophyta, Latest Ed., Wiley Eastern
4. Vashista, B.R. Bryophyta, Latest Ed., S. Chand & Company
5. Rashid, A. An Introduction to Pteridophyte, Latest Ed., Vani Educational Books.
6. Vashista, P.C. Pteridophyta, Latest Ed., S. Chand & Company Pvt. Ltd.
7. Agashe, S.N. Palaeobotany, Latest Ed., Oxford & IBH
8. Vashishta, P.C. Gymnosperm, Latest Ed., S. Chand & Company Pvt.
9. Karkar, R.K. & Karkar, R. The Gymnosperms, Latest Ed.
10. Biswas, C. & Johri, P.M. The Gymnosperm, 1997, Narosa Publishing House
11. Dutta, S.C. An Introduction to Gymnosperms (3rd ed.), 1984, Kalyani Publishers

Major-2- Zoology

SEMESTER-II

ZOO- MJ-II

FM: 75 (60+15)

UNIT-I

Non Chordates:

1. **Nemathelminthes:**
   - 1.1 Life cycle of Ascaris lumbricoids
   - 1.2 Life cycle of Wuchereria bancrofti
2. **Annelida:**
   - 2.1 Metamerism
   - 2.2 Type study: Leech and Earthworm (Digestive, Excretory, Circulator system - Comparative)
3. **Arthropoda:**
   - 3.1 Larval forms of crustacean
   - 3.2 Mouth parts in insects
   - 3.3 Vision (Structure of eye)in prawn and cockroach
4. **Mollusca:**
   - 4.1 Torsion and detorsion in gastropod
   - 4.2 Respiration in Mollusca (Unio & Pila)
5. **Echinodermata:**
   - 5.1 Water vascular system in Holothuria
   - 5.2 Larval forms of Echinodermata

Hemichordates: General characters and affinities

UNIT-II

Chordates:

1. **Reptilia:**
   - 1.1 Origin and evolution of Reptilia
   - 1.2 Types of Skulls
   - 1.3 Biting and Swallowing mechanism in snakes

MJ-2 Zoology

2. **Aves:**
   - 2.1 Origin and evolution of Aves
   - 2.2 Flight adaptation
   - 2.3 Migration

3. **Mammalia:**
   - 3.1 Origin of mammals
   - 3.2 Affinities of Prototheria and Metatheria
   - 3.3 Adaptive radiation with reference to locomotary appendages

UNIT-III

Comparative Anatomy of Vertebrates:

1. Respiratory System
2. Brain
3. Urinogenital System
4. Endoskeleton

UNIT-IV

General concept

1. Respiratory pigments in invertebrates and vertebrates
2. Eye structure in animal kingdom
3. Major excretory products of animals
4. Significance of biodiversity

SEMESTER 2

MAJOR 2

Course title: Elements of Petrology CREDIT 4

Course Objective:

1. To impart knowledge of basic elements of Petrology

2. To train the students to understand the processes of formations of different rock groups

Course Outcome:

Upon successful completion of course the students would be able to

1. Understand the basic concept of petrology and understand formation and types of mineral deposits associated with rocks.

2. Understand magma generation and evolution, and classify igneous rocks.

3. Understand fundamentals of sedimentary processes and stratigraphic correlation.

4. Understand factors of metamorphism and to classify metamorphic rocks.

UNIT 1:

Petrology: definition and scope. Introduction to common rock forming : silicates and non-silicates,

lithostratigraphic, chronostratigraphic, biostratigraphic and Tectonic/genetic facies.

UNIT 4:

Introduction to Metamorphic rock and their significance.

Factors of metamorphism. Classification of Metamorphic rocks.

Basic concepts of types of metamorphism.

Concepts of isograds and zones of metamorphism.

Relationship between matamorphism and deformation.

Texture of Metamorphic rocks.

Books Recommended:

1. Magma and Magmatic Rocks-Middlemost.

2. Igneous and Metamorphic petrology-Best.

3. Sedimentary Rocks-Pettijohn.

4. Fundamentals of Historical Geology and Stratigraphy of India-Ravindra Kumar.

MJ-2 Geology

ore forming and industrial minerals. Radioactive minerals, Fuel minerals Formation and types of mineral deposits, rock association. Mineral deposits associated with igneous rocks, sedimentary rocks and metamorphic rocks.

UNIT 2:

Magma: Definition, physical properties and chemical composition, origin. Crystallization of magma:

Bowen's reaction series, magmatic differentiation and assismilation.

Forms and structures of extrusive and intrusive igneous rocks.

Igneous textures: crystallinity, grain shape, size and mutual relationship of grains.

Bases of classification and types of igneous rocks.

UNIT 3:

Sediments: origin, transportation, deposition and lithification.

Fabric and texture of sedimentary rocks.

Roundness of particles and its geological significance.

Classification of sedimentary rocks: terrigenous and chemical sedimentary rocks.

Important primary sedimentary structure-bedding, ripple marks, cross bedding and mud cracks.

Different methods of stratigraphic correlation. Principles of nomenclature and classification of

lithostratigraphic, chronostratigraphic, biostratigraphic and Tectonic/genetic facies.

UNIT 4:

Introduction to Metamorphic rock and their significance.

Factors of metamorphism. Classification of Metamorphic rocks.

Basic concepts of types of metamorphism.

Concepts of isograds and zones of metamorphism.

Relationship between matamorphism and deformation.

Texture of Metamorphic rocks.

Books Recommended:

1. Magma and Magmatic Rocks-Middlemost.

2. Igneous and Metamorphic petrology-Best.

3. Sedimentary Rocks-Pettijohn.

4. Fundamentals of Historical Geology and Stratigraphy of India-Ravindra Kumar.

M.Sc-2 Geology

PRACTICAL

Course title: Lab work for Elements of Petrology CREDIT 2

1. Handling optical microscope

2. Optical properties and identification of common rock forming minerals (Quartz, Plagioclase, Microcline, Biotite, Muscovite and Garnet).

3. Identification of some common Igneous, Sedimentary and Metamorphic rocks under hand specimen with particular emphasis on texture and structures.

Igneous rocks: Granite, Rhyolite, Basalt, Dolerite, Gabbro, Diorite etc.

Sedimentary rocks: Sandstone, Limestone, Shale, Conglomerate, Breccia etc.

Metamorphic rocks: Slate, Phyllite, Schist, Gneiss, Marble, Quartzite etc.

INTRODUCTORY REGULAR COURSE 2

Course: Igneous Petrology and Geodynamics

Course Objective:

1. To impart knowledge about the magmatic systems

2. To train the students about the dynamism of the earth

Course Outcome:

Upon successful completion of course the students would be able to

1. Understand the mantle system and magmatic processes with special reference to Precambrian rock association.

2. Understand basic principles of equilibrium thermodynamics, binary and ternary systems and origin of different igneous rocks.

3. Understand internal structure and layers of the Earth and plate tectonics.

4. Understand different earth processes in relation to plate tectonics.

UNIT 1:

Mantle petrology: Mineralogy and Chemistry.

Primary and parental magma: Physical and Chemical properties, volatile contents.

MS-2 Geology

Magmatic differentiation: Fractional crystallization, magma mixing, crystal settling, liquid immiscibility, assimilation.

Major and trace elements in magmas; application of trace elements in igneous petrogenesis.

Classification of igneous rocks, bases of classification, IUGS classification.

Igneous rock associations in space and time; Mineralogy and chemical characteristics of the following Precambrian igneous rock assemblages: (a) Komatiites (b) Anorthosites and (c) Tonalite (d)trondhjemite-granodiorite (TTG).

UNIT 2:

Basic principles of equilibrium thermodynamics;

Concept of system, phase and component; Chemical potential and phase rule.

Phase equilibria of the two and three component silicate systems:

Binary System- Albite-Anorthite, Diopside-Anorthite, Nepheline-silica, Forsterite-silica,

Diopside-Anorthite-Albite, Nepheline-Kalsilite-Silica ternary systems.

Basaltic magmatism in relation to plate tectonics. Concept of igneous rock series.

Mineralogical Characteristics and origin of the following rock types:

(i) Granite, Granodiorite, Diorite, Rhyolite (ii) Basalt, Dolerite, gabbro (iii) Syenites, nephelinesyenite, trachyte (iv) Preidotites

UNIT 3:

Internal structure of the earth.

Geophysical conditions of the earth: gravity, magnetism, heat flow.

Concept and theories of isostacy.

Plate tectonic theory: the mechanism of the plate tectonics.

Nature and types of plate margins.

Geometry and driving mechanism of plate motion.

UNIT 4:

Plate tectonics with time, Evolution of continents and oceans.

Magnetic anomaly patterns in the ocean basins and sea-floor spreading.

Origin, Significance and distribution of divergent margins, mid oceanic ridges.

Origin, Significance and distribution of subduction zones, Islands arcs and trenches.

Mj-2 Geology

Tectonics of continental rifts, continental margins, shelves, marginal basins and intracratonic basins.

Plate Tectonics and magmatism.

Neotectonics: Active fault system.

Indicators of recent tectonic activity.

Books Recommended:

1. Principles of igneous and metamorphic petrology-Philpots
2. Magma and magmatic rocks- Middlemost
3. Igneous and metamorphic petrology- Best
4. Plate tectonics and crustal evolution- Condie
5. Aspects of Tectonics- Valdiya
6. Global Tectonics- Kearey and Vine
7. Igneous petrology- M.K.Bose
8. Igneous petrogenesis- M.Wilson
9. Igneous Rocks and Processes- A practical guide- Robin Gill
10. Igneous Petrology – Alexander R. McBirney

PRACTICAL

Igneous Petrology & Geodynamics:

Hand specimen study of different types of extrusive and intrusive igneous rocks, Microscopic study of igneous textures, mineralogy and petrogenetic features of igneous rocks.

Major-2- EMY

Distribution of Marks for End Semester Examination (ESE) – (Total Marks-75)

Group A - (Compulsory)

i. **05 Very Short Answer Type Questions - 1 x 5 = 5**
Altogether **six questions** will be set for this section (*one from each unit*). The examinee will be required to answer **any five** questions.

ii. **01 Short Answer Type Question (to be answered in approx. 250 words) = 5**
One short answer type question, with an alternative, from the first three units (*Unit 1, 2 and 3*) will be set.

iii. **01 Short Answer Type Question (to be answered in approx. 250 words) = 5**
One short answer type question, with an alternative, from the last units (*Unit 4, 5, and 6*) will be set.

Group B

iv. **04 Descriptive Type Question (to be answered in approx. 600 words)- 15x4= 60**

[**Group B** will contain **six descriptive type** questions (*one from each unit*). The examinee will be required to answer **any four** questions.]

Note: If required, there may be **subdivisions** in each question asked.

SEMESTER-2

Paper Code- MJ-2 **No. of Credits-06**

Paper Title: **EARLY MODERN LITERATURE**

Full Marks: 25 (SIE: 1Hr) +75 (ESE: 3 Hrs) = 100
Pass Marks: (SIE+ESE) = 40

Unit 1 - William Shakespeare, ***As You Like It***

Unit 2 - William Shakespeare, ***Macbeth***

Unit 3 - Ben Jonson, ***Volpone***

Unit 4 - Francis Bacon, ***Essays*** (*Of Studies, Of Beauty, Of Adversity, Of Youth and Age*)

Unit 5 - Michael Drayton, **"Since There is no Help"**
Edmund Spenser, **"One Day I Wrote Her Name"**
William Shakespeare, **"Shall I Compare Thee"**
Ben Jonson, **"Come, My Celia"**

Unit 6 - John Donne, **"Good Morrow"**
George Herbert, **"Virtue"**

18/8/22 18.8.22 18.08.22 18/8/22 18-08-22

MJ-2 Eng.

Andrew Marvell, **"To His Coy Mistress"**
John Milton, **"On His Blindness"**

Distribution of Marks for Semester Internal Examination (SIE)

The Semester Internal Examination (SIE) shall have two components:

v. **Semester Internal Assessment Test (SIA) of 20 marks**
vi. **Class Attendance Score (CAS) of 05 marks**

In **Semester Internal Assessment Test (SIA)** there will be two groups of questions. **Group A** is compulsory which will contain **two** questions. **Question no. 1** will be very short answer type consisting of five questions of 01 mark each. **Question no. 2** will be short answer type of 05 marks. **Group B** will contain descriptive type two questions of 10 marks each, out of which **any one** is to be answered.

Distribution of Marks for End Semester Examination (ESE) – (Total Marks-75)

Group A - (Compulsory)

i. **05 Very Short Answer Type Questions** **1 x 5 = 5**
Altogether **six questions** will be set for this section (*one from each unit*). The examinee will be required to answer **any five** questions.

ii. **01 Short Answer Type Question (to be answered in approx. 250 words) = 5**
One short answer type question, with an alternative, from the first three units (*Unit 1, 2 and 3*) will be set.

iii. **01 Short Answer Type Question (to be answered in approx. 250 words) = 5**
One short answer type question **(Explanation in case of units containing poems),** with an alternative, from the last three units (*Unit 4, 5, and 6*) will be set.

Group B

iv. **04 Descriptive Type Question (to be answered in approx. 600 words) 15x4 = 60**
[**Group B** will contain **six descriptive type** questions (*one from each unit*).The examinee will be required to answer **any four** questions].

Note: If required, there may be **subdivisions** in each question asked.

18.08.22
Head
P. G. Department of English
S. K. M. University
Dumka, Jharkhand

18.08.22

18.08.22

18/8/22

18/8/22

Major-2-Hindi

(8)

Major Paper – 2

द्वितीय छमाही

विषय कोड –

अंक – 75 (Credit - 5)

क्रेडिट – 05+01

आंतरिक मूल्यांकन – 25 (Credit - 1)

कुल अंक – 100 (Credit – 06)

इकाई 1. रीतिकाल (रीतिकाल की सामाजिक, सांस्कृतिक पृष्ठिभूमि, रीतिकालीन साहित्य के प्रमुख भेद – रीतिसिद्ध, रीतिबद्ध, रीतिमुक्त, रीतिकाल की प्रवृत्तियां) - 02 क्रेडिट

इकाई 2. रीतिकाल के प्रमुख कवि एवं उनका काव्य -01 क्रेडिट

केशव दास (व्याख्या एवं समीक्षा)

कविप्रिया - प्रिय प्रकाश – लाला भगवानदीन तृतीय प्रभाव 1, 2, 4, 5

बिहारी (व्याख्या एवं समीक्षा)

बिहारी रत्नाकर – जगन्नाथ दास रत्नाकर – आरंभ के 10 दोहे

घनानंद (व्याख्या एवं समीक्षा)

घनानंद ग्रंथावली – सं. विश्वनाथ प्रसाद मिश्र, सुजानहित – 1, 4, 7

इकाई 3. आधुनिक काल (आधुनिक काल की सामाजिक, सांस्कृतिक पृष्ठभूमि, पुनर्जागरण काल, आधुनिक काल की प्रवृत्तियां व विशेषताएँ) - 02 क्रेडिट

इकाई 4. – आधुनिक काल के प्रमुख कवि एवं उनका काव्य -01 क्रेडिट

भारतेंदु (व्याख्या एवं समीक्षा)

निज भाषा उन्नति अहै, रोकहूँ जो तो अमंगल होय, ब्रज के लता पता मोहि कीजे

अयोध्यासिंह उपाध्याय 'हरिऔध' (व्याख्या एवं समीक्षा)

कर्मवीर कविता

मैथलीशरण गुप्त (व्याख्या एवं समीक्षा)

कैकेयी का पश्चाताप कविता

MJ - 2 Hindi

सामान्य निर्देश/अंक विभाजन

1. प्रश्न पत्र की अवधि तीन घंटे की होगी।
2. प्रश्न पत्र के दो खंड होंगे जो क्रमशः दीर्घउत्तरीय एवं लघु उत्तरीय/वस्तुनिष्ठ प्रकार के होंगे।
3. दिए गए खंड क से चार प्रश्नों के उत्तर अपेक्षित हैं।
4. दिए गए खंड ख से दो लघु उत्तरीय एवं पांच वस्तुनिष्ठ प्रश्न होंगे।
5. खंड क - 15×04 = 60 अंक
   खंड ख (लघु उत्तरीय) - 05×02 = 10 अंक
   खंड ख (वस्तुनिष्ठ) - 01×05 = 05 अंक

	75 अंक
आंतरिक मूल्यांकन – एक लिखित परीक्षा	10 अंक
एक मौखिक परीक्षा	10 अंक
उपस्थिति	05 अंक
	100 अंक

विशेष :- विभागीय शिक्षकों के अतिरिक्त मौखिकी हेतु एक वाह्य परीक्षक अनिवार्य होगा।

सहायक ग्रंथ व पाठ सामग्री

1- डॉ. नगेन्द्र व डॉ हरदयाल, हिंदी साहित्य का इतिहास
2- शुक्ल, रामचंद्र, हिंदी साहित्य का इतिहास, नागरी प्रचारणी सभा, वाराणसी
3- रत्नाकर, जगन्नाथ दास, बिहारी रत्नाकर, रत्नाकर पब्लिकेशन, वाराणसी
4- निर्मला, टी., पद्य मंजरी, राजकमल प्रकाशन, नई दिल्ली
5- ओझा, डॉ दुर्गाप्रसाद, आधुनिक काव्य प्रतिनिधि रचनाएँ, प्रकाशन केंद्र लखनऊ

Major-2 - Santali

(9)

दोसार सेमेस्टर

MJ– 2 End Semester Exam. Marks- 75

Credit – 6 Internal Marks – 25

संताली पारसी सांवहेंत् रेयाक् नागामः नाहाक् जुग(1847 ई० खोन नितोक् हाबिच्)
History of Santali Language-Literature: (1947 AD to till date)

UNIT-I माराङ ओानोड़हें आर तारा ओनोड़हें रेयाक् ओमोनोम, हारा राकाप्, आर ओनोड़हें रेयाक् गुनको ।

UNIT-2 काहनी आर गामाम रेयाक् ओमोनोम, हारा, आर गुनको

UNIT-3 गायान आर तारा गायान (एकांकी) रेयाक् ओमोनोम, हारा राकाप् आर गुनको

UNIT-4 ओनोल, जियोन –चारित, दिनीसा (संस्मरण), रेखाचित्र, रिपोर्ताज, इंटरव्यू, रेडियो नाटक, एमान रेयाक् ओमोनोम हारा राकाप् आर गुणको।

UNIT-5 संताली खोबोर साकाम रेयाक् जानाम आर गुनको (विशेषताएँ)

गोक्ड़ो पुथीको –

1. संताली भाषा और साहित्य : उद्भव एवं विकास– डॉ0 डोमन साहु 'समीर', अभिराम प्रकाश, समीर कुटीर, टी. विलासी, देवघर।
2. संताली भाषा –साहित्य का इतिहास– डॉ0 उमाशंकर, साहित्य संसद, देवघर।
3. संताली साहत्यि रेयाक् इतिहास– प्रो. सनातन हॉसदा, संताली साहित्य प्रकाशक, दुमका।
4. सांवताली भाषा ओ साहित्येर इतिहास– डॉ0 धीरेन्द्रनाथ बास्की, संतोषी प्रिंटर्स, नारकेलडांगा, मेन रोड, कोलकाता– 71
5. संताली साहित्येर संक्षिप्त परिचय– परिमल हेम्ब्रम, माराङबुरू प्रेस, माचेदा, पूर्व मेदिनीपुर– 721137
6. सांवताली साहित्येर इतिहास– परिमल हेम्ब्रम, निर्मल बुक एजेंसी, महात्मा गाँधी रोड, कोलकाता– 07
7. बिबलीयोग्राफी : संताली लिटरेचर– गुरूचरण मुर्मू और अमल कु0 दास, विश्वनज 9/3 तामेर लेन, कोलकाता
8. सान्ताड़ी सांवहेंत् रेयाक् ओमोनोम आर हारा– डा. कृष्ण चन्द्र टुडू, संताली साहित्य परिषद, राँची।
9. होड़ होपोन रेन पेड़ा, पेड़ाहोड़, ढारवाक्, मारसाल आर मारसाल ताबोन

नोम्बोर हाटिञ

मुचात् सेमेस्टर बिड़ाव (End Semester Exam 75 Marks)

Group A- जोतो कुकली को रेयाक् गे तेला/जोबाब एमोक् होयोक् आ–

06.08.22 6/8/22 6/8/22

M.T-II-Inst.
Mj-2 Santali

1. आड़ी खाटो़ते तेला एमावाक् 5 कुकली को x 1 नो़म्बो़र = 5 नो़म्बो़र
2. खाटो़ते तेला एमावाक् 2 कुकलीकिन x 5 नो़म्बो़र = 10 नो़म्बो़र

Group B- जेलेञ जोबाब आनाक् कुकली को

6 कुकली को मो़द खोन 4 कुकली को रेयाक् गे तेला/जो़बाब एमोक् होयोक् आ x 15 नो़म्बो़र = 60 नो़म्बो़र

सेमेस्टर भितरी तेयाक् बिड़ाव (Semester Internal Exam – 25 Marks)

1. ओ़लोक् बिड़ाव (Wrriten Examitoin) / Assignment/ Project/Tutorial – 20 नो़म्बो़र
2. हा़जरी– 05 नो़म्बो़र

(हा़जरीरे दो़ 45% रे 1 नो़म्बो़र, 45 खो़न 55% रे 2 नो़म्बो़र, 55 खो़न 65% रे 3 नो़म्बो़र, 65 खो़न 75% रे 4 नो़म्बो़र आर 75 खो़न 100% रे 5 नो़म्बो़र ञामोक् आ।

06.08.22 6/8/22 6/8/22

MJ-2 Urdu

(11)

B.A. Semister II

Major Course

Urdu SHORT STORY Paper - II (Credits:Theory-05,Tutorial-01)

Marks : 25 (MSE: IHr) + 75 (ESE: 3Hrs)=100 Pass Marks: Th (MSE+ESE)=40

سوال نامے کے لیے ہدایات:

درمیانی امتحان

اس میں سوالات کے دو گروپ ہونگے۔الف ،تحریری امتحان :دس نمبرات۔گروپ ،ب۔شفوی امتحان دس نمبرات۔ج ۔حاضری ،پانچ نمبرات

نوٹ :شفوی امتحان میں باہرکا ایک اکسپرٹ کا ہونا لازمی ہوگا

سیمسٹر امتحان

سوالات کے دو گروپ ہوں گے۔گروپ 'A' لازمی ہے جس میں دو سوالات ہوں گے۔سوال نمبر 1 میں ایک نمبر کے دس مختصر ترین جوابوں والے سوالات ہوں گے۔سوال نمبر دو مختصر جواب والا پانچ نمبروں کا سوال ہوگا۔گروپ 'B' میں پندرہ نمبروں کے تفصیلی جواب والے چھ سوالات ہوں گے جن میں سے کسی چار کا جواب دینا ضروری ہوگا۔

نوٹ: تھیوری امتحان میں پوچھے گئے ہر سوال میں ذیلی تقسیم ہوسکتی ہے۔

URDU SHORT STORY

اردو مختصر افسانے کا مطالعہ

Unit-I

- افسانے کا فن
- اردو میں افسانے کی روایت

Unit-II

- افسانے کے مختلف رجحانات
- رومانوی افسانہ

Unit-III

- ترقی پسند افسانہ
- تجریدی اور علامتی افسانہ
- آزادی کے بعد اردو افسانہ

MJ-2 Urdu

Unit-IV

- ٹوبہ ٹیک سنگھ، منٹو (متن مطالعہ)
- چوتھی کا جوڑا، عصمت چغتائی (متن کا مطالعہ
- دیمک غیاث احمد گدی (متن کا مطالعہ)
- آخری حربہ، الیاس احمد گدی (متن کا مطالعہ)
- لاجونتی۔ راجندر سنگھ بیدی
- مہالکشمی کا پل۔ کرشن چندر۔ متن کا مطالعہ
- الاؤ۔ سہیل عظیم آبادی۔ متن کا مطالعہ
- جونیئر۔ اختر اورینوی۔ متن کا مطالعہ

معاون کتب:

۱۔ اردو فکشن ۔ آل احمد سرور
۲۔ کہانی کے پانچ رنگ ۔ شمیم حنفی
۳۔ نیا افسانہ ۔ وقار عظیم
۴۔ فن افسانہ نگاری ۔ وقار عظیم
۵۔ جھارکھنڈ میں اردو افسانہ ۔ طٰہٰ شمیم
۶۔ بہار میں اردو افسانہ نگاری ۔ وہاب اشرفی
۷۔ غیاث احمد گدی تعارف اور انتخاب ۔ ڈاکٹر جمشید قمر
۸۔ اردو افسانہ نیاز سے غیاث تک ۔ عبدالقیوم ابدالی
۹۔ منٹو اور بیدی۔ تقابلی مطالعہ ۔ ڈاکٹر کہکشاں پروین

Major-2 - Bengali

(12)

MAJOR COURSE BEN - 2

SEM - 2

Total Marks - 100 Credits - 06

আধুনিক যুগের বাংলা গদ্য

বাংলা সাহিত্যের ইতিহাসে আধুনিক যুগ অর্থাৎ ১৮০০ খ্রীস্টাব্দ থেকে ১৯৬০ খ্রীস্টাব্দের মধ্যে যে গদ্য রচিত হয়েছে তার পরিচয়। বাংলা সাহিত্যে গদ্যের ইতিহাসে ফোর্ট উইলিয়াম কলেজ থেকে শুরু করে প্রবন্ধ, উপন্যাস ও ছোটগল্পের বিবর্তন ও তার মূল্যায়ন।

দ্বিতীয় পত্র : আধুনিক যুগের বাংলা গদ্য

১। শ্রীরামপুর মিশন, ফোর্ট উইলিয়াম কলেজ
২। রামমোহন, বিদ্যাসাগর, অক্ষয়কুমার
৩। প্যারীচাঁদ, কালীপ্রসন্ন, বঙ্কিমচন্দ্র
৪। রবীন্দ্রনাথ, রামেন্দ্রসুন্দর ত্রিবেদী, প্রমথ চৌধুরী
৫। বিভূতিভূষণ, শরৎচন্দ্র, তারাশঙ্কর

সহায়ক গ্রন্থ :

১। বাংলা সাহিত্যের ইতিহাস – সুকুমার সেন
২। বাংলা সাহিত্যের ইতিকথা – ভূদেব চৌধুরী
৩। বাংলা সাহিত্যের ইতিবৃত্ত – অসিতকুমার বন্দ্যোপাধ্যায়
৪। বাংলা সাহিত্যের বিকাশের ধারা – শ্রীকুমার বন্দ্যোপাধ্যায়
৫। বাংলা সাহিত্যের রূপরেখা – গোপাল হালদার

MJ-2 Persian

(13)

Semester -2

Paper Code MJ – 2 **No of credit – 06**

Classical and Modern Poetry

Unit 1 Asnaaf-e-Shairi

Ghazal, Nazm, Quasidah, Rubayee, Marsia, Hamd, Naat

Unit 2 Hafiz's life and work and his 5 first Ghazal of Radeef Alif from Nesab Jadeed Farsi.

Unit 3 Life and works of Amir Khusro and his 5 first ghazal of Radeef Alif from Nesab Jadeed Farsi

Unit 4 Life and works of Umar Khayyam and 5 first Rubayee from Nesab Jadeed Farsi

Unit 5 Life and works of Bahar Mashhadi and his Following poems

a) Quasida –e – Watania
b) Kaihan –e – Azam
c) Dar Rah –e - Ishque

Unit 6 **Grammar**

Gardaan, Masdar, Muzara, Wahid, Jama

Books Prescribed

Nessab –e- Jadeed Farsi

Published By : Jayeed press, Balimran, Delhi Published by Ram Narayan Lal, Arun Kumar Allahabad

Turn over

Mj-2 Persian

Distribution of marks for End Semester examination (ESF)-(Total marks -75)

Group 'A' Compulsory

I. 05 very short answer type Questions – 1X5=5

Altogether six questions will be set for this section (One from each Unit)

The Examinee will be required to answer any five questions

II. 01 Short answer type question (to be answered in approx 250 words)=5

One short answer type question with an alternative from the first three units (unit 1, 2 and 3) will be set

III. 01 Short answer type question (to be answered in approx 250 words)=5

One short answer type question (Explanation in case of units containing poems) with an alternative from the last three units (unit 4, 5 and 6) will be set

Group 'B'

IV. 04 Descriptive type questions (to be answered in approx 600 words) 15x4=60

Group 'B' will contain six descriptive type questions (one from each unit) The examinee will be required to answer any four questions.

1. Dr .Md. Masood Ahmad
ASST. Professor
Deptt. of Persian
Millat College, Parsa
2. Md. Islam uddin
Head of the Department of Persian
A.N College , Dumka

Major-2- philosophy

(14)

Major Paper -2(Disciplinary/Interdisciplinary)

U.G.Semester-02 Paper Code-MJ-2

Philosophy Credit-06

Western Philosophy Full Marks-100

Unit-1

Plato- Theory of Idea

Aristotle- Matter and Form, Theory of Causation

Unit-2

St.Augustine- Faith, Free-will, Problem of Evil

St. Thomas Aquinas- Proofs for the existence of God

Unit-3

Descartes- Method of Doubt, Cogito ergo sum

Spinoza- Substance, Attributes, Mode

Leibnitz- Monads, Pre-established harmony

Unit-4

Locke- Refutation of innate ideas, Primary and

Secondary qualities

Berkeley- Esse est percipi, Refutation of materialism

Hume- Ideas and Impressions, Analysis of Causality, Skepticism

Unit-5

Kant- Synthetic a-priori Judgment, Phenomenon and Noumenon

Objectives:

The main objective of this paper is to develop students' understanding about the main ideas and theories of leading Western philosophers from the ancient Greek to modern times.

Outcome:

The main expected outcome of studying this paper is that students will be understand the major concepts of ancient and modern Western philosophy.

Suggested Readings:

C D Sharma	Western Philosophy
Y Masih	Western Philosophy
B N Singh	Pashchatya Darshan

Major- 2- Geography

MAJOR COURSE (MJ 2)

Credits-6

F.M. -100

THEORY- 75

PRACTICAL- 25

CLIMATOLOGY

UNIT I

Introduction to Climatology; Climatology and Meteorology; Atmosphere: Origin, Composition and Structure

UNIT II

Weather and Climate: Elements and Controlling Factors; Temperature: Horizontal and vertical Distribution; Insolation; Heat balance of earth

UNIT III

General circulation in the atmosphere; Atmospheric Pressure and pressure belts; Winds: planetary, periodic, and local; Monsoon

UNIT IV

Moisture in the Atmosphere: Humidity, Evaporation and Condensation, Precipitation, Air Masses and Fronts: origin classification and characteristics; Atmospheric disturbances: Cyclones: Tropical and Temperate; Anti Cyclones

UNIT V

Climatic classification by Koppen and Thornwaite ; Global warming; Climate change; Thunderstorm.

MJ-2 Geography

PRACTICAL – MJ 2

F.M – 25 **Time – 3 hours**

Interpretation of weather maps, Rainfall- temperature graph - 10 marks.

Climograph, Hythergraph, Wind rose diagram - 10 marks.

Practical record and Viva- voce - 5 marks.

REFERENCES

1. Barry, R. G., and Chorley, R. J., (2009): *Atmosphere, Weather and Climate(9th Edition)*,Routledge, New York.

2.Singh, S., (2009): *Jalvayu Vigyan (Hindi),*, Prayag Pustak Bhawan, Allahabad

3. Bhutani, S., (2000): *Our Atmosphere*, Kalyani Publishers, Ludhina.

4. Critchfield, H. J., (1987): *General Climatology*, Prentice-Hall of India, New Delhi.

5. Gupta, L.S., (2000): *JalvayuVigyan(Hindi),*MadhyamKaryanvayNidishalya, Delhi VishwaVidhyalaya, Delhi.

6. Das, P.K. 2011(3rd edition). The Monsoons. National Book Trust, New Delhi

7. Lal, D. S., (2006): *JalvayuVigyan(Hindi),*, PrayagPustakBhavan, Allahabad.

8. Lutgens, F. K., Tarbuck E. J. and Tasa D., (2009): *The Atmosphere: An Introduction to Meteorology*, Prentice-Hall, Englewood Cliffs, New Jersey.

9. Oliver, J. E., and Hidore J. J., (2002): *Climatology: An Atmospheric Science*, Pearson Education, New Delhi.

10. Strahler, A.N., (1987) *Modern Physical Geography*, John Wiley and Sons, New York, Singapore.

16.08.22
H. O. D.
P.G.Dept. of Geography
S.K.M.U., Dumka

Major-2- ECO

Semester-II

Learning Outcome- At the End of semester the course will enable to students to understand the basic concept & fundamentals of macro analysis and will also develop the ability of the students for analysis and application macro analysis in the field.

Subject- Economics
Paper- Major Paper-2 (MJ-2)
Total Credit-06

Full Marks-100
Internal Exam- 25
End Exam-75

UNIT-I National Income Accounting

National income accounting- Concept of National Income, Measurement of National Income, Circular Flow of Income - two, three,& four sector model.

UNIT-II Theory of income and Empolyment

Theory of income and Employment- classical,Say's Law of market,Keynesian effective demand.

UNIT-III Consumption Function

consumption Function- short run and long run, Factors affecting propensity to consume, Theory of consumption- Absolute income hypothesis & Relative Income Hypothesis.

UNIT-IV Economic Policy

Economic Policy- Monetary policy & Fiscal policy, its role in Economic development and Employment generation.

UNIT-V Theory of Money

Quantity Theory of Money- Transaction approach, Cash Balance approach, & Modern Theory.

Readings

1. J.R. Hicks, Critical essay in modern theory
2. S.k. Singh, Monetary Economics- Theory and practices
3. Rlukas, Studies in business cycle theory
4. N.G. Mankind, New Keynsian economics
5. D.Romer, Monetary planning in India
6. R.D. Gupta, Keynsian Economics
7. H.L Ahuja, Macro Economics

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Major Course: Ancient and Early Medieval History: Post Mauryan to 1206 A.D

MJ-II - History

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Course Objective: The Course aims at encouraging students to appreciate the significance of the events of the historical period covered under this paper and also reflect upon the interconnectedness of different historical processes and changes. It further seeks to enable them to critically examine the multiple perspectives related to this historical period and also formulate their own arguments and ideas about India's past

Learning Outcomes: After the completion of this course, a student is expected to –

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Literature:

Unit II:

MJ-II History

i) Have an overall understanding of the historical changes in this period
ii) Analyse the processes that led to a transition from ancient to medieval period.
iii) Develop a critical lens to the contexts and factors related to historical events
iv) Appreciate the interconnectedness between contemporary India and its past.

Unit I:

i) Shungas, Bactrian Greeks, Scythians, Kushanas: Polity and impact
ii) Economy : land revenue, trade and trade routes, Indo-Roman trade.
iii) Religion and culture : Emergence of Mahayana Buddhism, Vajranana, Post Mauryan Art and Literature.

Unit II:

i) Satavahanas : Polity, administration, land grants
ii) Sangam age : Polity, society, literature and culture

Unit III:

i) Age of Guptas : Chandragupta I, Samudragupta, Chandragupta II
ii) Administration, Art-archiecture, Economy during Gupta period
iii) Harshavardhana : Rise and Administration

Unit IV:

i) Peninsular India: Chola, Chalukyas, Pallavas – Polity, economy and cultural developments
ii) Origin of Rajputs
iii) Pratiharas, Palas, Rashtrakutas : Nature of regional politics

Unit V:

i) Arab Invasion of Sind
ii) Ghazni invasions ; nature, causes and impact
iii) Ghorian invasions : nature, causes and impact

Unit VI:

i) Feudalism: Main features, difference between European and Indian feudalism
ii) Social changes during the period: Position of women, caste system, rise of new social classes
iii) Religious developments during the period

Suggested Readings:

- Romila Thapar: Early India (Hindi translation as प्राचीन भारत)
- Romila Thapar: Ancient Indian Social History
- R S Sharma: Ancient India (Hindi translation as प्राचीन भारत)

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MJ-II History

- R S Sharma: Material culture and Social Formations in Ancient India
- D N Jha: Ancient India (Hindi translation as प्राचीन भारत)
- A L Basham: The Wonder that was India
- D D Kosambi: An Introduction to the Study of Indian History
- J L Mehta: An advanced study in the History of Medieval India
- Irfan Habib: Medieval India
- Satish Chandra: Medieval History (Vol 1 and 2)
- S Rizvi: The Wonder that was India (Vol 2)
- डी एन झा एवं श्रीमाली: प्राचीन भारत का इतिहास
- विशुद्धानंद पाठक: उत्तर भारत का राजनीतिक इतिहास
- वी डी महाजन: प्राचीन भारत का इतिहास
- उपिंदर सिंह: प्राचीन एवं पूर्व मध्यकालीन भारत का इतिहास
- सतीश चन्द्र: मध्यकालीन भारत (भाग 1 एवं 2)
- इम्तियाज़ अहमद: मध्यकालीन भारत
- जे एल मेहता: मध्यकालीन भारत

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Major-2- pol sc

Sido Kanhu Murmu University, Dumka

Department of Political Science

Code: MJ - 2 **Western Political Thinkers (Credits – 6, Full Marks 100)**

Course Objective:

The purpose of this module is to introduce to the students some classical political thinkers from the West who shaped the ideas and key concepts of political Science in the Anglo-American tradition. Developing a 'just society' and a 'just state' has been a perennial question for all civilizations. But the answers are not alike. They are different across civilizations and times. This course examines the ideas of some of the prominent classical political thinkers beginning from Plato and ending with Mill whose response to political questions vividly influenced political thinking. The seeds of the conceptual themes which seem to be so enriched today also found expressions in older times with different accentuation and nodes. The course seeks to explore their ideas and examine them critically.

Learning Outcomes:

a. The students will know the key ideas of all the political philosophers given in the course.

b. They will be able to explain the dimensions of the ideal state according to Plato and how was it linked to his scheme of education and theory of justice.

c. They will be able to understand the philosophy of Aristotle relating to Revolution, Property and Classification of Government.

d. They will be able to make a distinction among Hobbes, Locke, and Rousseau on the state of nature, the law of nature, nature and form of contract and the emergence of state from the contract.

e. They will be able to discern the meaning of Liberty and Democracy in the philosophy of Mill.

g. Students would understand the key ideas in Marxism.

Unit I

a. **Plato : Ideal State, Justice and Education**

Unit II

b. **Aristotle : Revolution, Property and Classification of Government**

Unit III

c. **Hobbes : Sovereignty and Individualism**

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P.G. Dept of Pol. Sc
S.K.M University
Dumka, Jharkhand

MG-2 Pol. Sci

d. **Locke : Social Contract, Property and Natural Rights**

Unit IV

e. **Rousseau : Social Contract, General Will and Inequality**

Unit V

f. **J.S. Mill : Liberty and Democracy**

Unit VI

g. **Marx : Dialectical Materialism, Historical Materialism, Class Struggle and Revolution**

Suggested Readings:

1. Parel, A. J. (2009) 'From Political Thought in India to Indian Political Thought', in Shogiman, T. and Nederman, C. J. (eds.) *Western Political Thought in Dialogue with Asia.* Plymouth, United Kingdom:Lexington.

2. Pantham, Th. & Deutch, K. L. (eds.) *Political Thought in Modern India.* New Delhi: Sage.

3. Burns, T. (2003) 'Aristotle', in Boucher, D and Kelly, P. (eds.) *Political Thinkers: From Socrates to the Present.* New York: Oxford University Press.

4. Waldron, J. (2003) 'Locke', in Boucher, D. and Kelly, P. (eds.) *Political Thinkers: From Socrates to the Present*, New York: Oxford University Press.

5. Zelliot, E. (1986). 'The Social and Political Thought of B.R. Ambedkar', in Panthan, Th. & Deutsch, K. L.(eds.) *Political Thought in Modern India.* New Delhi: Sage, pp. 161-75.

6. Deutsch, K.L. (eds.) *Political Thought in Modern India.* New Delhi: Sage, pp. 325-46.

7. Mehta, V. R. (1992) *Foundations of Indian Political Thought.* New Delhi: Manohar Publishers.

8. Sparks, Ch. and Isaacs, S. (2004) *Political Theorists in Context*. London: Routledge.

9. V.P.Verma., 'Modern Indian Political Thought', Laxmi Narain Agrawal,Agra

10. V.R.Mehta., 'Foundations of Indian Political Thought', Manohar, New Delhi.

11. U.N.Ghosal., 'A History of Indian Political Ideas', Oxford University Pressa, London.

12. A.Appadorai., 'Documents on Political Thought in Modern India', 2vols., Oxford University Press,1970.

My-2 Pol. Sci

13. Laski HJ., 'Political Thought from Locke to Bentham', Oxford University Press.

14. Gettel RG., 'History of Political Thought', New York, Novell & Co.

15. Doyle P., 'A History of Political Thought', Jonathan Cape,London,1933.

16. Curtis M., 'The Great Political Theories', 2vols. New Delhi, Avon.

Major-2- Sociology

COURSE OUTCOME

SEMESTER-II
PAPER-MJ-II

- **To Introduce Students to the Nature of Scientific Method in Social Science Research.**
- **To understand the Nature of Scientific Method in Social Science Research.**
- **To understand the quantitative and qualitative approach to Research.**
- **To enhance the Research interests and inculcate the Spirit of inquiry among students, who may be motivated to continue higher studies in Social Research.**

SEMESTER-II
CREDIT-6
MARKS- 100
PAPER: MJ-II

Title: METHODS and TECHNIQUES OF SOCIAL RESEARCH

TOPICS:

Unit-1: Social Research- Meaning and Definition, Stages and Significance.

Unit-2: Scientific Method- Meaning and Definition, Characteristics.

Unit-3: Hypothesis- Meaning and Definition, Characteristics, Types, Source of Formulation.

Unit-4: Methods and Techniques of Data Collection- Observation, Case Study. Survey, Sampling, Interview, Questionnaire and Schedule.

Unit-5: a. Sources of Data- Primary and Secondary.
b. Measures of Central Tendency- Mean, Meadian, Mode and Standard Deviation.

Essential Readings:

1. रविन्द्र नाथ मुखर्जी – सामाजिक शोध एवं सर्वेक्षण
2. जी . के . अग्रवाल – सामाजिक अनुसंधान एवं सर्वेक्षण
3. P.V. Jourg - Scientific Social Surveys & Research
4. C.R. Kothari - Research Methodology: Methods & Techniques.
5. K. Punch - Introduction to Social Research.
6. J. Madge - The Tools of Social Research.

Head -in- Charge
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Major-2- Psychology

SEMESTER-II

SEMESTER-II (MAJOR PAPER)

Program / Class: Certificate

Subject: Psychology

Course Title: Social Psychology

Course Code: MJ **Paper- II(theory)** **Credit: 6**

No. of Lectures-Tutorials-Practical- (in hours per week): L-T-P: 6-0-0

Course outcome: The students will learn or be aware about the basic concepts, models, theories, different perspectives and views of social psychology. They will also learn how to apply them in practical life. It will also give the learner a clear understanding of the concepts like Attitude, public opinion, prejudice, inter personal relationship, propaganda, social perception, deprivation, poverty, etc. and its impact on human behavior.

SUBJECT FOR SEMESTER –II LECTURES WITH CREDIT

Name of the Paper	FM	PM	No. of Lectures	Total Credit
MAJOR *1.Social Psychology*				
Theory -1 (M)	*75*	*30*	*45 (90 hrs)*	*6*
NTRODUCTORY *2. Educational Psychology*				
Theory	*75*	*30*	*15 (30 hrs)*	*2*
Practical	*25*	*10*	*7 (14hrs)*	*1*

FM= Full Marks PM= Pass marks

SEMESTER-II

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MJ-5 Psychology

Time 3 Hours | Full Marks 75

Eight questions of equal value (i.e. 15 marks each) will be set, out of which four questions are to be answered. Question number one will be compulsory comprising 15 objective type questions covering the entire syllabus.

Unit : 1 Introduction:

a) Definition and Nature of Applied Social Psychology.
b) Importance and Applications of Applied Social Psychology.
c) Scope and Current status of Applied Social Psychology.
d) Recent Development in Social Psychology

Unit : 2 Crime and Criminals:

a) Definition, Nature and Characteristics of Crime and Criminals
b) Psychological, Biological and Socio-cultural explanation of Crime and Criminals
c) Walter Reckless theory of Crime and Preventive measures of Crime
d) Anti social personality

Unit : 3 Terrorism:

a) Definition Nature and Characteristics.
b) Origin and Development in India.
c) Consequences and Preventive Measures.
d) Psychology of terrorism

Unit : 4 Violence against Women:

a) Definition, Nature and Characteristics.
b) Type, Causes and Consequences.

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Mj-II Psychology

c) Legal Act in for Prevention

d) Women Empowerment and health

Unit-V : Social Problems

a. Psychological understanding of social system.
b. Indian family system.
c. Social stratification- caste, class, power, social identities- religious ethics.
d. Social inequity poverty and deprivation:
e. Social psychological analysis of deprivation;
f. Consequences of deprivation, poverty-cause and measures.

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References (suggested readings)

Singh. AK. . Samsj Manovigyan ki Ruprekha. Patna. Motilal Banarsidas.

Suleman, Md(2012). Manovigyan aur Samajik Samasyaye, Patna: Motilal Banarsidas.

Prasad, Navratan(2009). Samajik Samasyaye, Patna, Motilal Banarsidas.

Baron . R and Byrne(2010). Social Psychology: New Delhi: Pearson Education.

K, Renu(2010). Apradhsashtra aur Samajik Samasyaye, New Delhi: Atlantic Publication.

Pandey, G(2010). Samaj Manovigyan, New Delhi, Atlantic Publication.

Bandura, A(1990). Aggression : A Social Learning Analysis.New Jersey, Prentice Hall

Gelles & Cornell(2005). Intimate Violence in Families, Beverly Hills, Sage Publication.

Marwah, Ved(2004). Pathology of Terrorism in India, Delhi

Saxena, NS(2010). Terrorism: History And Facets in the World and India., New Delhi, Abhinav Publication.

- Pandey Gaya : Social Cultural Anthropology.
- Ram Ahuja : Saamaajik Anusandhaan.
- Pandey Gaya: Maanav Shaastriya Anusandhaan Vidhi evam Taknik, concept new delhi.

SEMESTER – 2

MAJOR COURSE – ANT-MJ-2 (Credit: Theory – 04)

Total Marks: 75 (15 Marks Internal Examination+ 60 Marks End Semester Examination)

BIOLOGICAL ANTHROPOLOGY Total Credit Hours : 60

Unit 1 : History of Physical Anthropology and development of Modern Biological Anthropology ; aim scope and relationship with allied disciplines ; difference in modern and traditional approaches in Biological Anthropology .

Unit 2 : Theories of organic evolution : Lamarckism , Neo Lamarckism , Darwinism , Neo Darwinism , Synthetic Theory , Mutation and Neo – Mutation theories .

Unit 3 : Position of man in animal kingdom : living primates and their distribution , characteristics and classification , primate behavior , comparative anatomy of man and apes .

Unit 4 : Concept of Race , genetic basis of race , UNESCO statement on race , racial classification of human population (E. A. Hooton's classification) , recent understanding of human biological categories in the context of human genome research .

Unit 5 : Structural changes due to erect posture or Bipedalism.

5. Sinha, Sinha & Singh – Shram Shastra kee Bhumika (Hindi)

Semester II (Part I)

M.J 2

Social Security& Welfare

Unit 1 Social Security - Meaning , Characteristics, Types and Methods – Traditional and Modern.

Unit 2 Social Insurance and social Assistance – Their concept and difference between them.

Unit 3 Growth and Development of Social Security system in India.

Unit 4 **Concept of Social Welfare –** Meaning, Scope, Changing approaches, Welfare State and Social Welfare

Unit 5 **Social Welfare measures** for Schedule castes, Schedule Tribe and Backward classes with special reference to Jharkhand – Voluntary Social Welfare agencies in Sathal Pargana

Books Recommended

1. P.R.N. Singh & Indubala – Sharam Evam Samaj Kalyan (Hindi)
2. G.R. Madan – Indian Social Problems
3. C.B. Memoria – Social Problems and social Disorganization
4. Govt. of India – Social Welfare in India
5. C.B. Memoria – Social Security in India

Asst. Prof.
Dept. of L.S.W
B.S.K. College, Barkawa.

09/12/22
H.O.D
Dept. of L.S.W.
B.S.K. College, Barkawa.

Major-2 - Commerce

B.COM (H): SECOND SEMESTER **PAPER CODE: BCOM-MJ-2**

Marks: (External-75: Internal-25) **PAPER: CORPORATE ACCOUNTING**

Duration: 3 Hrs.

Course Credits	No. of Teaching Hours Per Week	Total No. of Teaching Hours
06	6 Hrs	90 Hrs

Pedagogy: Classrooms Lecture, Numerical Problem solve, and Case study.

Course Objective: To help the students to acquire the conceptual knowledge of the corporate accounting and to learn the techniques of preparing the financial statements.

Course Outcomes: On successful completion of the course, the Students will be able to

1. Develop the application skills for computation of issue, forfeiture and re-issue of forfeited shares, redemption of preference shares and issue and redemption of debentures.
2. Prepare financial statements of the company.
3. Calculate the value of shares and goodwill.
4. Understand the procedure of amalgamation and internal reconstruction of companies.
5. To develop knowledge for preparation of consolidated balance sheet.

Course Contents

Unit 1. Accounting for Share Capital & Debentures (18 lectures)
Meaning and Kinds of shares; Issue, forfeiture and re-issue of forfeited shares;
Meaning of Redemption, Redemption of preference shares; Meaning and types of debentures, Issue and Redemption of Debentures.

Unit 2. Final Accounts (18 lectures)
Preparation of profit and loss account and balance sheet of corporate entities (excluding calculation of managerial remuneration) and Disposal of company profits.

Unit 3. Valuation of Goodwill and Valuation of Shares (18 lectures)
Valuation of Goodwill: Meaning, needs of valuation of goodwill, factors affecting the valuation of goodwill, Methods of valuation of goodwill.
Valuation of shares: Meaning, needs for valuation of shares, factors affecting the valuation of shares, Methods of valuation of shares.

Unit 4. Amalgamation of Companies (18 lectures)
Meaning and types of amalgamation, accounting treatment as per Accounting Standard: 14 (ICAI) (excluding intercompany holdings). Internal reconstruction: Meaning and needs for internal reconstruction, accounting treatment excluding scheme of reconstruction.

Unit 5. Accounts of Holding Companies /Parents Companies (18 lectures)
Meaning of holding and subsidiary company, Legal requirements for a holding company, Advantages of consolidated financial statements, Preparation of consolidated balance sheet with one subsidiary company.

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University Department
of Commerce
SKMU, Dumka

19/08/22

(Dipak Kr. Sah)

MS-2 Commerce

Suggested Readings:

1. R.L Gupta & M. Radhaswamy, Corporate Accounting, Sultan Chand & Sons.
2. V Rajasekharan & Sunita Gupta, Corporate Accounting, Pearson
3. R.L Gupta & V.K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons.
4. S.P Jain and K.L . Narang .Corporate Accounting, Kalyani Publishers
5. M.C Shukla ,M.C., T.S.Grewal, and S.C Gupta .advanced Accounts .Vol – II .S. Chand & Co.
6. S.N Maheshwari and S.K .Maheshwari .Corporate Accounting.Vikash Publishing House.
7. Sehgal ,Ashok and Deepak Sehgal .Corporate Accounting .Taxman Publication.
8. Gupta ,Nirmal .Corporate Accounting, Sahitya Bhawan , Agra.
9. Dr. S.M Shukla, Corporate Accounting, Shahitya Bhawan Publications.
10. Dr. S.K. Singh, Dr. L.B. Paliwar and S.K. Agrawal, Corporate Accounting, SBPD Publications.

Note: Latest edition of text books may be used.

Head in-Charge
University Department
of Commerce
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