

As per the revised guide lines of the NAAC, Jharkhand College, Dumri has tried it's level best as far as possible for the first time to prepare the "PO PSO CO for different programme. Hope, NAAC will advise us if there is any changes to made.

V.B.University has already introduce CBCS pattern for all UG programmes and we have prepared the "PO PSO CO" as per CBCS pattern.

PO PSO CO

PSO

Program specific outcome

(PSO) of B.Sc Botany

1. Understand the importance of plants and microorganisms, their diversity and its conservation.
2. Achieve knowledge of pure and applied botany.
3. Understand contribution of botany in increase and improve our supply of medicines, food, fibres and other useful plant products.
4. Understand health and environmental protection and to solve the pollution problems.
5. Understand knowledge of many applied sciences like Agriculture, Forestry, Pharmacology and medicine.
6. Understand to case nature.
7. Understand experiments in Botany.

CO-(COURSE OUTCOMES) OF B.Sc

Botany

SEMESTER-I

Core Course-I & II (Microbiology, Physiology Bio molecules and cell.

A-Micro

Biology

1. Students should be able to know about structure and reproduction in viruses and Bacteria.
2. Acquiring knowledge about diseases caused by bacteria and viruses and its control measures.
3. Understand the economic importance of microbes with reference to their role in agriculture and Industry (Fermentation and medicine).

B-Phycology

1. Acquiring knowledge about general characters and classification of algae especially proposed by Fritsch.
2. Imparting knowledge of morphology and life cycles of, Brown, Green and Red algae.
3. Economic importance of algae.

C- Biomolecules

1. Acquiring knowledge of Nomenclature, of and classification of biomolecules.
2. Studying about structure and functions of different biomolecules such as carbohydrates,

proteins, Nucleic acids and Enzymes.

D-Cell

1. Student should be able to know about structure of cell and its organelles.
2. Acquiring knowledge about cell division such as mitosis, Meiosis and cancer.

SEMESTER-II

Core Course-III and IV

Mycology, Physiopathology, and Archegoniate

A-Mycology

1. Improving knowledge about general characters and classification of Fungi.
2. Studying about life cycles and diseases caused by fungi and its control measures.
3. Studying about economic importance of fungi such as, preparation of antibiotics, Industry enzymes and Biopesticides.

B-Physiopathology

1. Studying about symptoms, etiologic and caused organisms plant diseases.
2. About control measures of plant diseases.

C-Archegoniate

1. The students can understand the knowledge of life cycles, evolution of gametophyte and sporophytes in Bryophytes.
2. About economic importance of Bryophytes.
3. About life cycles of pteridophytes and fossil plants.
4. About heterospory, seed habit and evolution.
5. Knowledge about morphology, anatomy and reproduction in gymnosperms.

SEMESTER-III

Core Course-V, VI and VII

Anatomy of Angiosperms, Economic Botany and Genetics.

A-Anatomy of Angiosperms.

1. Students should be able to know about tissues and types of vascular bundles.
2. Studying about internal structures of plant parts.
3. Studying about Anomalous secondary growth and Anatomical adaptation of xerophytes and hydrophytes.

B-Economic Botany

1. Acquiring knowledge about resources of plants to fulfil the basic needs such as cereals, legumes, spices, Beverages, oil and Drugs- yielding plants.
2. Studying about plants drug abuse.
3. Studying about Timber, Fibres and sugar yielding plants.

C-Genetics

1. Studying about Mendel's laws of Inheritances.
2. Studying about linkage and crossing over.
3. Studying about variation in chromosome number and structure.

SEMESTER-IV

Core Course : VIII, IX, and X

Molecular Biology, plant Ecology, phytogeography and systematics.

A-Molecular Biology

1. Students should be able to know about nucleic acids such as DNA, RNA, Structure of DNA and RNA.
2. Studying about Replication of DNA, central Dogma and Genetic code.
3. Studying about mechanism of Transcription, Translation and Regulation of gene expression.

B-Plant Ecology and Phytogeography

1. Studying about Inter-relationship between the world and the environment.
2. Physical, chemical and biological components of soil.
3. States of water in environment and Hydrological cycles.
4. Studying about plant communities and Ecosystems.
5. Causes, effect and control measures of pollution.

C- Systematise

1. Acquiring knowledge about preparation of Herbarium and about Botanical gardens.
2. Studying about Botanical nomenclature and system of classification especially Bentham and Hooker's and Hutchinson's system of classification.
3. Studying about some families of plants.

SEMESTER-V

Core Course – VI and XII

Reproductive Biology of Angiosperms and plant physiology.

1. Students studying about, microsporogenesis, microgametogenesis, Megasporogenesis and Megagametogenesis.
2. Studying about pollination and fertilization.
3. Studying about Endosperm, embryo and seed development.
4. Studying about polyembryony and apomixes.

B-Plant Physiology

1. Students studying about physiological mechanism in plants such as absorption, of water, Transpiration and Ascent of sap.
2. Studying about mineral nutrition, macro and micro nutrients.
3. Studying about plant growth regulators such as Auxin, Gibberellins and cytokines.
4. Studying about Photoperiodism, vernalization and seed dormancy.

SEMESTER-VI

Core Course-XIII, XIV Plant Metabolism and plant Biotechnology

A-Plant Metabolism

1. Students should be able to know about concepts of Metabolism.
2. Studying about carbon-assimilation and carbon oxidation .
3. Studying about ATP Synthesis.
4. Studying about lipid metabolism and Nitrogen metabolism.

B-Plant Biotechnology

1. Students are improving knowledge about plant tissue culture especially Totipotency, organogenesis, Embryogenesis, somatic hybridization, anther culture, pollen culture and Germplasm conservation.
2. Studying about Recombinant DNA technology.
3. Studying about application of Biotechnology such as Transgenic crops with improved quality and Impact of transgenic crops on society.

Discipline specific Elective (DSE)

DSE of semester-V

Plant Breeding and Natural Resources Management.

A-Plant Breeding

1. Introduction and objectives.
2. Studying about crop Improvement, Introduction, selection and Hybridization.
3. Studying about Inbreeding, Inbreeding Depression, Heterosis.
4. Role of mutation, polypoidy, Distant hybridization and Role of Biotechnology in crop Improvement.

B-Natural Resources Management

1. Studying about Natural resources, concept, approaches, (Economical, Socio-cultural,

Ecological).

2. Soil degradation and management .
3. Biological Resources, Biodiversity, threat and its management. Forest and Management.
4. Energy- Renewable and Non-renewable sources.
5. National and International efforts in resources management.

Discipline specific Elective (DSE)

of SEMESTER-VI

A-Environmental Education and waste Management.

1. Studying about Ecosystems, population, community components of Ecosystems.
2. Migration, Transportation, Urbanization, Industrialization, Environmental Impact Assessment.
3. Need for management of waste, safe disposal of waste.
4. World conservation strategy, Legal provisions for waste management, Swachh Bharat Abhiyaan, Global warming, Green house effect, and consequences of climatic change.

B-Industrial Environmental Microbiology.

1. Studying about Biogas, Process & Importance Need, Merit and Scope.
2. Bioremediation, Role of microbes in waste management.
3. Studying about water pollution, Sewage, algal bloom, BOD, COD, Eutrophication.
4. Biological fixation, Mycorrhiza, Isolation of root nodule bacteria.
5. Microbial products of Industrial value such as organic acids, alcohols, Antibiotics, Downstream processing and uses.
6. Bio leaching.

PROGRAM SPECIFIC OUT COME (PSO) B.Sc, Chemistry

After first chemical revolution, chemistry has changed and improved modern life with excellent amenities and services. Study of various field of chemistry enables us to understand its application in various fields of modern industrial aspects like drugs, polymer, metallurgy, explosive, fertilizer, food processing, petrochemicals, textile, cement, coal etc.

Also chemistry has a dark side to it as it is held responsible for environmental problems.

Study of green chemistry specially deals in .minimizing pollution, awareness about chemical waste and their disposal techniques.

Course Outcomes -Semester I

CI: Inorganic Chemistry I

- Atomic Structure
- Chemical Bond
- Periodic Table

Knowledge of atoms and molecules on the basis of classical and quantum concepts.

Description of Periodic Table as a list of elements so as to demonstrate trends in their physical and chemical properties.

CM: Physical Chemistry-I

- Gaseous State-To understand the kinetic molecular model of gas, Maxwell distribution, Deviation of Vanderwaal's equation equation from real gases.
- Ionic Equilibria- Knowledge of electrolyte, pH salt hydrolysis and solubility product.

Semester II

CIII : Organic Chemistry-II

- Basics of Organic Chemistry

- Stereochemistry
- Chemistry of Aliphatic Hydrocarbon
- Aromatic Hydrocarbon

Knowledge of fundamental principle of organic chemistry that includes chemical bonding, nomenclature stereochemistry, chemical reaction and mechanism.

CIV: Physical Chemistry-II

- Chemical Thermodynamics
- Chemical Equilibrium
- Solution

This course gives the understanding of thermodynamic approach in chemistry, thermodynamic equilibrium and colligative properties of solution.

Semester III

CV: Inorganic Chemistry-II

- Acids and Bases
- Chemistry of s and p block elements
- Noble Gases

This course aims at instilling the knowledge of concept of acids and bases and chemistry of s and p block elements, diagonal relationship, hydrides and preparation and properties of their important compounds and chemistry of inert gases.

CVI: Organic Chemistry-II

The study of this course aims at instilling in students the knowledge and understanding of: Alkyl halide, Aryl Halide, Alcohols, Phenol, Epoxide, Carboxylic Acid and their derivatives.

CVII: Physical Chemistry-III

This course gives the knowledge and understanding of phase equilibria, two component system, Nernst equation with application, chemical kinetics, Arrhenius equation, activation energy, physical and chemical adsorption and adsorption isotherms.

Semester IV

CVII: Inorganic Chemistry-III

This course enables holistic understanding of key features of co-ordination chemistry, V.B.T, C.F.T, nomenclature, isomerism in co-ordination compounds and chemistry of transition elements, Lanthanoids and Actinoids.

CIX: Organic Chemistry-III

This course aims at inculcating advanced concepts of organic chemistry which includes nitro compounds, nitrites, iso nitriles, amines, poly nuclear hydrocarbons and heterocyclic compounds.

CX: Physical Chemistry-IV

This course incorporates analytical understanding of conductance and electrochemistry.

Semester V

CXI: Organic Chemistry-IV

This course builds on elementary and advanced concepts of organic chemistry and elucidates an understanding of fundamental biochemical principles such as structure/function of biomolecules, metabolic pathways and the regulation of biochemical processes. Topics covered are- Nucleic Acids, Peptides, Proteins and Pharmaceutical compounds.

CXII: Physical Chemistry-V

- Quantum Chemistry
- Molecular spectroscopy
- Photochemistry

This course primarily focuses on application of quantum mechanics and interaction of electromagnetic radiation, various types of spectra, characteristics of electromagnetic radiation and law of photochemistry.

Semester VI

CXIII: Inorganic Chemistry-IV

- Inorganic Polymers
- Bioinorganic Chemistry
- Catalysis by Organometallic Compound

This course intends to develop an understanding of inorganic polymers, role of metals in biology, toxicity of metal ions and catalysis by organometallic compounds (industrial processes).

CXIV: Organic Chemistry-IV

- Organic Spectroscopy
- Carbohydrates
- Dyes

This course deals In UV and IR spectroscopy, occurrence, classification and biological importance of carbohydrates and chemistry related to dyeing.

Chemistry-DSE I-IV (Electives)

The study of this course aims at instilling in students the knowledge and understanding of the following-

- Theoretical Principles in qualitative analysis H₂S scheme.
- Quantitative Analysis
- Gravimetric Analysis

DSE-II-Analytical Method in Chemistry

This course gives ability to knowledge of analytical method in following fields

- UV Spectroscopy
- Infrared Spectrometry
- Flame atomic absorption and emission spectrometry
- Estimation of functional group

- Conduct metric Titration
- Potentiometric Titration

DSE-III: Green chemistry

This course enables us environment friendly alternative chemical process like using less environmentally harmful solvent, finding new synthesis pathway and improving selectiveness in reaction generating less waste and avoiding use of highly toxic compounds. This is the essence of green chemistry that is vastly applied in today's chemical industry.

DSE-IV: Industrial Chemical and Environment

This course gives us the knowledge of large scale production, storage, safe usage of inorganic chemical and industrial gases. This course also gives us awareness about environment related issues like water, air pollution and its effect on living organism and vegetation.

B.COM COMMERCE

Commerce is a branch of business. It is concerned with the exchange of goods and services. It includes all those activities which directly or indirectly facilitate that exchange.

Programme specific outcome :-

The students should pass & the knowledge skills and attitudes during the end of the B.COM. degree course by virtue of the training they can become on Manager, Accountant, Management Accountant, cost Accountant, Bank Manager, Auditor, Company-Secretary, Teacher, Professor, Stock Agents, Government Jobs etc.

Course outcomes :-

Course Semester-I Outcomes

1. Financial accounting On successful completion of this course the student are enabled with the knowledge in the practical application of accounting and understood concepts and conventions of Accounting.
2. Business Law This course outcomes to inculcate knowledge on various laws relating to business. Such as laws of contract.
Law of sale of goods, law of agency, Negotiable Instruments Act. etc.

Course Semester-II Outcomes

1. Business organization On successful completion of this subject the students acquires the various types of Business organizations and office Management and related.
2. Management principles and Application. By the end of the course, student should be able to Demonstrate critical thinking when presented with managerial problems and express their views and opinions on managerial issues in an articulate way.

Course Semester-III Outcomes

1. Income Tax Law and practice. The course aims to provide an in depth knowledge on the provisions of Income-Tax. To familiarize the students with recent amendments in Income-Tax.
2. Financial Account-II To enable the students to learn the basic concepts of partnership Accounting and allied aspects of accounting. After the successful completion of the course the students should have a through knowledge on the accounting practice prevailing in partnership firms and other allied aspects.

Course Semester-IV Outcomes

1. Corporate Accounting (4) This course aims to enlighten the students on the accounting

procedures followed by the company.

(2) To enable the students to be aware on the corporate Accounting in conformity with the provision of the companies Act.

2. Indirect Tax (1) This course provide basic knowledge and equip student with application of principles and provision of service Tax, VAT, central Excise and customs Laws.

(2) To, completion of the course students will be able to describe the transaction types which are related to VAT.

Course Semester-V (1) After the successful completion of the course the student should have a thorough knowledge the cost account principles and the method of accounting cost.

(2) To inculcate knowledge on cost sheet material issues, Labour cost, Financial statement analysis, Budgeting etc.

Course Semester-VI On successful completion of this course, the student should be well versed in the fundamental corporate Governance.

2. Computer Application in Business. The focus of this course is on business productivity software application and professional behavior in computing including word processing, spread sheets, databases, presentation graphic and business oriented utilization of the Internet.

P.O , P.S.O , C.O -English

PO-English

Student seeking admission for B.A. are expected to imbue with following qualities which help them in their future life to Achieve the excepted goals.

- (1) Realization of human values.
- (2) Sense of social service
- (3) Responsible and dutiful citizen.
- (4) Creative ability.

P.S.O.-

- (1) Creating an interest in literature.
- (2) Availing job opportunities in translation, transformation and media.
- (3) Developing language
- (4) Increasing the critical attitude about literary studies.

C.O. Sem-1-Indian Classical Literature

- (1) Understanding the inter relation between literature & society.
- (2) Acquiring the knowledge about the nature of language and literature.
- (3) The student able to get the knowledge about the Indian Literature.

Core-II- Europe Classical Literature :-

- (1) The student knows about the classical literature of Europe that is a concise history of Richard Ruthertold the Roman Empire in the west and the beginning of medical Europe.
- (2) It is an Introduction to European classical literature including Plato, Aristotle, Homer, the odyssey.

SEM-II-Core-3 Indian writing in English :-

- (1) The student is able to acquire the knowledge about the social, political, religious and economic condition of the respective period in Indian writing English.
- (2) Again they know the significant literary movement, trend, influences and literary school of various Indian water such as R.K. Narayan, Girish Karnad.

Core (4) British Literature – 14th to 17th Century.

- (1) After completion of this paper the student able to know the social, political, religious and economic condition of the respective ages of the England from 14th to 17th century.
- (2) The student knows about the consideration of the physical condition of literary production and consumption.

(3) They know about the 15th and 16th Century, the English poetry was either a part of the Renaissance Period (1500-1600) or the Neoclassical Period (1660-1798)

SEM-III (Core-5) American Literature 19th & 20th Century.

(1) The student able to identify key ideas, representative authors and work, significant historical or cultural events and characteristics, perspectives or attitude expressed in literature of different periods.

(2) Demonstrate knowledge of the development of characteristics form or type of expression during different historical periods in different regions.

Core (6) Popular literature 19th – 20th Century.

(1) They know about the critical thinking that includes creative thinking, innovation, inquire, analysis, evaluation and synthesis of information.

(2) The study enables them to acquire knowledge regarding the social responsibility of intellectual competence, knowledge of civics and ability to engage effectively in regional, national and global communities.

Core (7) British Poetry and Drama – 18th Century.

(1) Be able to show an appreciation for a poem.

(2) Understand and appreciate poetry as a literary art form.

(3) Able to analyze the various elements of poetry such as diction, tone, genre, imagery, figure of speech, symbolism, theme etc.

Semester-IV

Core (8) British Prose – 18th Century.

(1) Student is able to learn the flow of speech and ordinary grammatical structures.

(2) The study enables them to know that prose is the ordinary form of the written language, Description of facts or the discussion of whatever ones though are incorporated in free flowing speech.

Core (9) British Prose – – 19th Century.

(1) Acquire the knowledge about the period of 19th century that its duration is from (roughly) 1799 to 1900.

(2) Understanding that the development in literature in this period is a parallel changes in the visual arts and other aspects of 19th Century.

Core (10) British Poetry – 18th Century.

(1) To equip students with a critical vocabulary with which to talk about poetic forms and devices (used in 19th century) poetry, as the ballad, sonnet, the use of alternation, assonance, consonance, diction, grammar, metaphor, metre, rhyme, rhythm, register simile, syntax and tone of voice.

(2) Know to situate these poets and poem in their socio –Political context.

Semester-V

Core (11) Women's writing

(1) Acquiring the knowledge that women's writing as an era of study has been developing since the 1970.

(2) They able to know women's writing is generally considered an area of specialization in its own right.

(3) The student acquire with many female author such as Arundhati Roy, Jhumpa Lahir, Anita Desai, Kiran Desai, Meena Kandassamy, Anita Nair, Sashi Despande, J.K. Rowling etc.

Core (12) British writing early 20th Century.

(1) Acquiring the idea that modernise is a major literary movement of the first part of the 20th Century. The term post modern literature is used to describe certain tendencies in post

world's war – II literature.

(2) Irish writers were especially important in the 20th Century, including James Joyce and later Samuel Beckett both central figure in the modernist movement. American poet like J.S. Eliot, Ezra Pound and Novelist William Faulkner, Joseph Conrad, E.M. Forster, Dorothy Richardson etc.

(3) British literature is a literature from the United Kingdom Isle of Man and Channel Island.

(4) All these things the student acquires during studying the paper.

DSE-I Study of Shakespeare-I

(1) On successful completion of the course the student will be able to gain an insight into the Shakespearean Comedy, Tragedy and History play-the post colonial studies.

(2) The student recalls and articulates information about character, language of Shakespearean literature.

DSE-II Study of Shakespeare-II

(1) They know to analyze the play of Shakespeare with respect to scenic form, character plot and communicate that analysis orally and in writing.

(2) The student analyzes the theoretical context of Shakespearean drama and of sciences, lines and character.

SEM-VI

(Core -13) Modern European drama

(1) Acquire the knowledge that the characteristic of Modern period drama has the quality of realism and naturalism.

(2) They are able to know that the modern dramatist like Henrik Ibsen, Arthur Honegger, Galsworthy and G.B. Shaw dealt with the problems of real life in a realistic manner in their play.

(3) Understand to deal with the problem of marriage, justice, law, administration and strife between capital and labour in their drama.

(Core -14) Postcolonial Literature

(1) The student is able to know the concept of post colonialism that-

(a) Double vision/double consciousness sense of being part of both colonized and colonizing culture.

(b) Hybridity/syncretism – quality of culture that hence characteristics of both colonizers and the colonized.

(c) Eurocentrism – View that European (Including American) ideals and experience are the standard.

(d) Neurocolonialism – Domination of a developing nation by International Corporation attracted by cheap labour and manipulates political and global legal system.

DSE-3-1 Study of Shakespeare -III

DSE-4- Study of Shakespeare –IV

(1) Awareness of third edition of Shakespeare is “The Norton Shakespeare” which is completely different from II nd edition of Shakespearean drama.

(2) Norton Shakespeare the third edition of Shakespeare in which the Introduction before every play is fantastic and provides so much background information and an analysis of the character and theme of each story.

(3) After completing the paper the student has a detailed knowledge of Shakespeare works and world.

(4) Understand the relevant dramatic genres.

(5) Understand how Shakespeare's texts have gained their unique position in English speaking cultures.

- (6) Know about the various ways in which Shakespeare and his works regarded today.
- (7) Have a practical understanding of the manner in which academic discourse on Shakespeare is conducted today.

PO – A Bachelor of Arts is a bachelor's degree awarded for on undergraduate course. Arts students have a lot of job opportunities. It is fruitful for those who prepare for public service examination because it is a marks scoring subject. Qualified student may be admitted to B.Ed., M.A., M.B.A. etc.

PSO of History Deptt.

1. According to the Allen Neris – “History is a bridge connecting the past with the present and pointing the roads to the future”.
2. By studying History students prepare themselves as a good citizen of the nation, so that they will recognized as secular, socialist and republican citizens.
3. Develop interest in the study of History and activities relating to history. They-
 - (a) Collect ancient arts, old coins and other historical materials.
 - (b) The study of History helps to impart moral education.
 - (c) History installs the feeling of patriotism in the hearts of students.
4. Careers of history students can engage as educators in elementary schools, secondary schools and post secondary, historic sites and museum etc.

B.A. Part-I

1st Semester

Core I – Ancient Indian History (Early times to mauryan age)

By the end of this course, the students will be able to:-

- (1) Know the pre-history and pro history.
- (2) Student will learn about the age of Palaeolithic. Mesolithic, Neolithic, Harappa and Vedic civilization, Bronze cultures in ancient India.
- (3) Classification of Buddhism and Jainism.
- (4) Know the life and work of Mourya dynasty like Chandra Gupta Mourya and Ashoka.

Core – II History of Modern Europe (1789 to 1971)

- (1) Understand the French Revolution and impact on European Countries. (2) They will know about the politics of superpower among the European countries. (3) They also learn how the rise of Napoleon Bonaparte events such as the congress of Vienna, concept of Europe, Italy and Germany's aggressive foreign policy influenced to from opposition allied power in the world.

2nd Semester

Core- 3 rd Ancient Indian History (Past Mauryan age to 650 AD)

- (1) They will learn about the invasions of Bactrian Gruks, scythions and kushanas.
- (2) They can acquire knowledge about the post mauryan politics with special reference to the satavahans, Shungas, rise of the guptas development of the empire, arts, architecture and literature etc.
- (3) Know the life and work of Harshvardhana pallovas and chalukya.

Core-IV History of Modern Europe (1871 to 1945)

After completion of the above chapters students will be able to –

- (1) Identify and analyse major development, events, themes and concepts in European history from 18th century to the beginning of the 20th Century.
- (2) understand the importance of world peace right after the 1st words war,
- (3) Evaluate the Russian revolution and the best experiment of the communist government,
- (4) understand the fascism and the rise of dictatorship in Europe.

B.A. Part-II 3 rd Semester

Core- Vth Medieval Indian History (650 to 1206 A.D.)

Students will be able to:-

- (1) Explain how the rise and growth of the Arbinvasian in Ancient India.
- (2) They can achieve knowledge about the development of India feudalism and evaluation of the political structure in early medieval north and south India.
- (3) Understand the cholas dynasty, Gazhani's and Ghouri's invasions-nature, causes and impact.
- (4) They will gather knowledge about the establishment of Delhi Sultanats.

Core VI th : History of U.S.A. (1776 to 1865)

Student will be able to

- (1) Explain the processes of the colonisation of American land.
- (2) Understand the founding principles and ideals propagated by the American Revaluation.
- (3) Evaluate the development and the nature of American democracy.
- (4) Know how the American people successfully deprive from the stigma of slavery and the civil war.

Core VII th : History of Jharkhand (1757 to 1900)

On completion of the course student will able to:-

- (1) Understands the coming of the English in Jharkhand.
- (2) Learn about the causes and effects of British power in Bengal with special reference to Jharkhand.
- (3) Explain process of the colonial politics and their impact on agriculture, land, forest and railway.
- (4) They will learn from this chapter about the local rebellion and Tribal Movement-Kol insurrection, santhal Hul and Birs ulgulan.

IV th Semester

Core- VIII Medieval India (1206 to 1526)

By the end of the course, the student will be able to:-

- (1) Understand the historiography and recent debates sources.
- (2) Understand early difficulties establishment of Turkish rule in India.
- (3) Grasp territorial expansion of sultanat period.
- (4) Understand of khilji and Tughlag Dynasty.
- (5) Describe the Timur's invasion and Sikandar Lodi.
- (6) Know the system of trade and commerce, Administration during the period of sultanat period.

Core- IX History of U.S.A. (1865 to 1945)

Students will be able to:-

- (1) Explain how the America marched towards to become a world power.
- (2) Describe the Theodor Roosevelt, Howard Taft, F.D. Roosevelt and New deal.
- (3) Critically assesses the importance of the role played by us in the world war-I and world war-II.

Core- X History of Jharkhand (1900 to 2000)

Students will able to:-

- (1) Evaluate the Chhotanagpur Tenancy Act of 1908 and Tana Bhagat Movement.

- (2) Identify the important and the legacy of freedom movement in Jharkhand.
- (3) They will gather knowledge about the impact of the company's Rule in Jharkhand.

V th Semester

Core-II History of Medieval India (1526 to 1707)

On completion of the course students will able to,

- (1) Understand the political situation of India on the eve of Baber's invasion.
- (2) Grasp territorial expansion of Mughal Empire.
- (3) Understand the emergence and consolidation of Shershah, Akbar, Shahzahan and Aurangzeb.
- (4) Understand the administrative setup of Mughals.
- (5) Comprehend the basic features of Mansabdari and change in during 17th Century.
- (6) Know the system of trade and commerce during the period of Mughals.

Core-12 History of China and Japan (1839 to 1949)

Student will able to:-

- (1) Understand the political situation of china and Japan.
- (2) Describe the opium war, Taiping Rebellion, Borer Rebellion and Chinas Revolution of 1911.
- (3) Learn about the emergency of the communist party of china and it's effect to the entire countries.
- (4) Understand the opening of Japan and Muji restoration.
- (5) Describe the Modernization of Japan.
- (6) Explain the Sino Japanese war of 1884-95, Russo Japanese war of 1904 to 05.

DSE I History of Modern India (1707 to 1857)

Student will be able to:-

- (1) Understanding the establishment of East India Company in India after the battle of Plassey and Buxar.
- (2) Identify the expansion of British Rule in India and Growth of Administration.
- (3) Evaluate the renaissance and social reform Movement in India.
- (4) Understanding the various phases of the Revolt of 1857.

DSE 2 History of Indian Freedom Moment

Rise of Nationalism to 1947

- (1) Understand early political awakening in Indian freedom movement.
- (2) Understand the difference between moderates extremists and revolutionaries.
- (3) Grasp the details of freedom Movement under the Mahatma Gandhi's leadership.
- (4) Understand the evolutionary processes of constitutional development.

4th Semester

Core-13 History of Modern India (1857 to 1947)

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

- (1) Understand modern India History.
- (2) Identify the importance and main provisions of Marley Minto reforms 1909, 1914, Govt. of India Act 1935 and Indian Independence Act 1947.
- (3) Evaluate framing the constitution – Structure and work.
- (4) Explain the salient features of the Indian constitution.

Core-14 History of West Asia (1839 to 1945)

Student will be able to:-

- (1) Evaluate the Young Turk Movement, Mustafa Kamal Pasha Reza Shah Pahlavi.
- (2) Identify the British in Iraq, French Mandate over Syria and Lebanon's.
- (3) Understand the Achievement of Ibn Saud.

DSE-3 History of Independent India (1947 to 2014)

Student will be able to:-

- (1) Explain the Annexation of Nalim states with special reference to Kashmir, Junagarh and Hyderabad.
- (2) Understand the Non Aligned Movement, Indo-China war 1962, Indo-Pak war 1965 and 1971.
- (3) Identify the emergence of India as a Nuclear power, emergency and J.P. Movement.

DSE-4 Contemporary World (1945 to 2011)

Student will be able to:-

- (1) Understand the formation, objectives and organization of UNO.
- (2) They will learn origin of the cold war and power relation.
- (3) Know about the social and technological development in contemporary world.

DEPARTMENT OF MATHEMATICS

Programme outcome • B.SC. graduate apply their broad knowledge of science across a range of field, with in depth knowledge in at least one area of study, while demonstrating an understanding of the local and global contexts in which science is practiced.

• Articulate the method of science and explain why current scientific knowledge is both contestable and testable by further inquiry, Apply appropriate methods of research, investigation and design, to solve problems of science.

Programme specific outcomes Mathematics majors will be able to apply critical thinking skills to solve problems that can be modeled mathematically, to critically interpret numerical and graphical data, to read and construct mathematical arguments and proofs. select and evaluate from a range of sources that include books, scientific reports, journals, case studies and their internet. To apply mathematical knowledge to a career related to mathematical sciences or in post graduate studies.

COURSE OUTCOMES

Sem-I

G.E. calculus To inculcate knowledge on the ability to find the effects of changing conditions on a system and vector differentiation.

Sem-II

G.E.

Differential Equation To inculcate knowledge on solving of first and second order algebraic equation and basic information.

Sem-III

G.E.

Real Analysis Inculcate knowledge on real numbers and their properties and proofs.

Sem-IV

G.E. Real Algebra To inculcate knowledge on (algebraic equations and their relations with properties) know the selected aspects of classical structures.

Department of Political Science

Programme Specific Outcomes (PSO)

Political Science is a social science discipline that has the utmost practical applicability. Its subject matter is concerned with the everyday life of an individual living in a society and state. Political Science is the study of political behavior, governance and power. Therefore, a degree in Political Science not only enables students to enhance their grasp of the basic structures and process of governmental systems, public, policies and political forces that directly impact their lives but also help them analyze political problems, arguments,

information and theories and to apply methods appropriate for accumulating and interpreting data applicable to this discipline. Above all aids students in becoming informed citizen by amplifying knowledge on their entitlement to the rights and duties within a state.

Course Outcomes

Sem.-I

Core -1 Indian Government and Politics:-

- (i) Know the salient features of problem and Indian constitution.
- (ii) To understand functions of Governments Bureaucracy of India, Judiciary of India and biggest democracy of the world.
- (iii) Know the roles & responsibilities of members of parliament and the process of drafting & presenting a bill in the parliament.

Core -2 Local self government :-

- (i) To understand the significance of gram sabha in local government system.
- (ii) Understand the Pachayati Raj System in India.
- (iii) Understand the functioning of Local Government institution in the select area.

Sem.-II

Core -3 An Introduction to Political Theory :-

- (i) Understand the meaning of Political Theory.
- (ii) Analysis the concept of liberty, equality justice and rights.
- (iii) Describe the main elements of state.

Core -4 Indian Political Thought :-

- (i) Know the sources of the Indian Political Thought.
- (ii) Apprising the students about Indian Political thinker's thoughts like Vivekanand, Mahathma Gandhi, M.N.Roy, Dr. Ambedkar etc.

Sem.-III

Core -5 Comparative Government and Politics :-

- (i) Acquiring knowledge about the structure & function of governments in the world.
- (ii) Helping the students in building their base in the study of comparative government.
- (iii) Acquiring knowledge about difference forms of government found in difference Political Systems in the world.

Core -6 Ancient and Medieval Western Political Thought :-

- (i) It helps the student & discover the Political Philosophy that forms the basis of Political in the western world to interpret the political philosophies of the German Philosophies in historical context as well as relate them to contemporary politics.
- (ii) Know the Plato's "Philosopher King" Aristotle's Theory St. Augustine Theory etc.

Core -7 Contemporary issues in Indian Politics :-

- (i) Describe the major issues in contemporary world.
- (ii) Know the problems of Nexalism in India.

Sem.-IV

Core -8 International Politics :-

- (i) To understand the International Politics.
- (ii) To understand the concept of Balance of Power.
- (iii) To understand the International security, Arm & Race, Arm & Control and Disarmament.
- (iv) To learn about issues of diversity and Internationalism.

Core -9 Modern Western Political thought :-

- (i) Acquire knowledge about modern Western Political thinkers/ and theirs view.
- (ii) Know the Rousseau's "Social Contract" Theory Locks, Bentham, Hegel Theory etc.
- (iii) Understand the thought of J.S. Mill, T.H. Green and Modern Western Political thinkers.

Core -10 Political Sociology :-

- (i) It promotes knowledge on basic concept such as politics power gender, civil society, citizens, culture and behavior of individual how they developed over time and where they stand today.
- (ii) It also helps formulate independently generated and theoretically based research questions within political sociology.

Sem.-V

Core -11 Political Ideology :-

- (i) Understand the relevant social economic and international context in which those debates occur.
- (ii) Analyze the major concepts and debates in Political thinking relating to political ideology and discourse.

Core -12 Public Administration:-

- (i) Students should demonstrate understanding of various activities of governmental administrate at fall under the rebric of public administration to include rule making rate making and other regulatory activities policy making and the delivery of services and programs.
- (ii) Students well have a summary understanding of public administration as a career field in governmental.

DES – I International Law

1. Analysis case examples relating to the use of force in International Law and be able to critically analysis how the rules of international law have been applied in particular situation.
2. Understand how International Law regulates the conduct in wars of both international non-international character.
3. Through this paper the student have many job opportunity of all categories.

DES – II International Organisation

1. Understand different theories of International Organisations.
2. A general understanding of the major international organizations worth particular emphasis on the analysis of its powers and areas of operation.
3. To study of the European Union and the United Nations.

Sem.-VI

Core -13 Contemporary Political Theory :-

1. Student will become familiar with a number of contemporary political issues and better understand their make-up and importance.
2. Students will understand how different political issues and assessed by different philosophical and ideological Traditions.
3. Student will be able to effectively write and develop arguments.

Core -14 Contemporary Political Analysis :-

1. Identify and differentiate between carious theoretical research paradigms employed in the social sciences.
2. Apply comparative methodology to the study of Political System.
3. Compare and contrast the roles and functions political parties in selected countries.
4. Distinguish between Unitary federal and confederal governmental models.

DES – III Political Party in India

1. Identity and explain the historical development and contemporary structure of Indian political parties.

2. Identify and explain the Historical Development and Regional Political Parties of Jharkhand.
3. Evaluate the evolution, functioning and consequences of Political Parties in India.

DES – IV Federalism in India

1. To understand the concept of Federalism.
2. To undertake a study of legislative and executive working of centre-state relationship in smooth functioning of deferral constitution.
3. To analyze energy trends in financial relationship between centre and states.
4. To understand the regional parties and their impact on federal process.

Program specific outcomes PSO of B.SC. Zoology

- * Demonstrated a broad understood of animal diversity, including knowledge of the scientific classification and evolutionary relationships of major groups of animals .
- * Recognized the relationship b/w structure and function at different level of biological organization (Eg :- Molecules cells, organs, organisms, populations and species) for the Major groups of animals.
- * Characterized the biological, chemical and physical terestial , freshwater, marine, host) that animals inhabit. Explain how animals function and interact with respect to biological, chemical and physical processes in Natural and impacted environments.
- * Explained how organisms function at the level of the gene, genome, cell tissue, organ and organ system. Drawing upon this knowledge they can give specific examples of the physiological adaptations, development reproduction and behavior of different form of life.
- * Understood the applied biological science or economic zoology such as sericulture, apiculture, Industrial microbiology & DNA, technology and medicine for their career opportunities.

CO (course outcomes B.SC. zoology)

SEMESTER-I

COURSE OUTCOMES: – BIODIVERSITY OF INVERTEBRATE-I OR NON-CHORDATE.

- * Come to knowing the basic concept of biosy stematies and procedure in taxonomy.
- * Identified the taxonomic status of the entire non-chordates up to annelids and discuss the evolutionary model of the groups.
- * Described the general biology of few selected non chordates useful to mankind.
- * Know about some of the important and common protozoan &, helminthes of parasitic nature causing disease in human being.
- * Understood the importance of metamerism in Annelids.

COURSE OUTCOMES: – BIODIVESITY OF INVERTEBRATE-II OR NON CHORDATE:-

- * Understood the diversity and classification and functional aspects of different systems of phylum Arthropoda, mollusca and Echinodermata.
- * Described the social life and economic importance of insects.
- * Understood the physiology of larval form of crustacean.
- * Special study of water vascular system and locomotion in Asters, and larval form of Echinodermota.

COURSE OUTCOMES: – BIODIVERSITY OF CHORDATES

* Identified the taxonomic status of the entire chordates and discussed the evolutionary model of the groups.

* Know about the conservation and management strategies of the chordate fauna.

SEMESTER-II

COURSE OUTCOMES: – CELL BIOLGY

* Understood the structure of cells and cell organelles in relation to the functional aspects and understanding of the working principles of microbes.

* Understood the properties and treatment of cancer cells.

SEMESTER-III

COURSE OUTCOMES: – ANIMAL PHYSIOLOGY

* Attained knowledge of qualitative analysis of macro moleculec excretory products, blood glucose and cholesterol .

* Skill development for the observation of blood cells and haemin crystals.

COURSE OUTCOMES: – BIOCHEMISTRY

* Understood the Enzyme reaction and in fluence of of temperature on enzyme action.

* Types of various component.

COURSE OUTCOMES: – ENDOCRINOLOGY

* Understood classification of chemical messengers and structure and function of endocrine organ.

* Study the honmones, Drugs and human health.

SEMESTER-IV

COURSE OUTCOMES: – GENETICS

* Understood the concept of Elements of heredity and variation.

* Acquired knowledge of Extension of mendelism.

COURSE OUTCOMES: – EVOLUTION

* Acquired knowledge of Evolution and evolution sources and evolutionary. of heories.

* Understood the history and evidence of evolution.

COURSE OUTCOMES: – ANIMALS HEHAVIOUR

* Acquired knowledge of concept and pattern of Behaviors, control of behaviors and social organization.

SEMESTER-V

COURSE OUTCOMES: – MICROBIOLOGY AND IMMUNOLOGY :-

* Acquired knowledge of Immunity.

* Humoral immunity and cell mediated immunity.

COURSE OUTCOMES: – ENVIRONMENTAL BIOLOGY & TAXICOLOGY

* Understood the etnbryonic development embryo technology.

* Understood the abiotic factors of environment and biogeochemical cycle and intraspecific.

COUSE OUTCOMES: – ECONOMIC ZOOLOGY

* Understood the sericulture, apicuturs, fishew/ etc.

SEMESTER-VI

COURSE OUTCOMES: – MOLECULAR BIOLOGY & BIOCHECHNOLOGY

- * Acquired knowledge of nucleic acid gene regulation.
- * Understood the elementary idea of repetitive DNA damage & DNA repair mechanism.
- * Acquired knowledge of Biotechnology.

COURSE OUTCOMES: – MEDICAL ZOOLOGY

- * Acquired knowledge of life cycle pathogen control of pathogenic.
Eg:- Plasmodium .
- * Understood the vector and non vector diseases.
- * Acquired knowledge of vaccine and vaccination.