## **COURSE**: BACHELOR OF SCIENCE (B.Sc.) – Medical

## **Program Outcome**

Bachelor of Science (B.Sc.) – Medical is a three-year degree program recognized by Kurukshetra University, Kurukshetra and follows the syllabus prescribed by the university. After completing the three-year degree program, students will be able to attain Life Skills, Critical Thinking Skills and Employability Skills in the field of medical sciences. The program also empowers the graduates to appear for various competitive examinations or choose the post graduate program of their choice.

## **Course Outcome: Chemistry**

Year: 1st Semester: 1st

#### **Course: CH-101 INORGANIC CHEMISTRY**

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

- Understand the types and energy of orbitals and to use various principles and rules for electronic configuration
- Understand the periodic law and significance of periodic classification and to classify the various elements into s,p,d,f, block elements
- Understand the geometries of various molecules and structure of various salts and all the parameters used for bond
- Make solutions of various molar concentrations
- Learn practically about paper chromatography

#### **Course: CH-102 PHYSICAL CHEMISTRY**

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

- Understand all types of Gas Law's used for gases and theories about gases
- Know the critical phenomenon like temperature, pressure, volume and their determination
- Have the knowledge of properties of liquids and their determination and for solids and to know kinetics of reactions and all phenomenon related to kinetics
- Know about electrolytes and their conduction and measurement of various conductances
- Practically learn the phenomenon like viscosity and surface tension and their measurement

#### **Course: CH-103 ORGANIC CHEMISTRY**

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

• Know the stereochemistry of various organic compounds and nomenclature of organic

compounds

- Know the mechanism in organic reactions
- Know about structure and bonding in various molecules
- Learn various reactions of characteristic compounds like alkanes, alkenes
- Learn practically to prepare various organic compounds

Year: 1st Semester: 2nd

#### **Course: CH-104 INORGANIC CHEMISTRY**

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

- Learn Hydrogen Bonding Definition, types, effects of hydrogen bonding on properties of substances, application
- Learn about Metallic bond Qualitative idea of valence bond and Band theories of metallic bond (conductors, semiconductors, insulators).
- Learn about General physical properties, low chemical reactivity of nobel gases.
- Learn about Diborane: Preparation, properties and structure (as an example of electron deficient compound and multicenter bonding)
- Learn about Understand Interhalogen compounds (their properties and structures), Hydra and oxy acids of chlorine structure and comparison of acid strength, cationic nature of Iodine.

#### **Course: CH-105 PHYSICAL CHEMISTRY**

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

- Understand about Rate of reaction, rate equation and its types, factors influencing the rate of a reaction concentration, temperature, pressure, solvent, light, catalyst.
- Understand about Order of a reaction, integrated rate expression for zero order, first order, second and third order reactions. Half life period of a reaction.
- Understand about Effect of temperature on the rate of reaction Arrhenius equation.
   Theories of reaction rate Simple collision theory for unimolecular collision.
   Transition state theory of bimolecular reactions.
- Understand about Electrolytic conduction, factors affecting electrolytic conduction, specific conductance, molar conductance, equivalent conductance and relation among them, their variation with concentration.

#### **Course: CH-106 ORGANIC CHEMISTRY**

- Understand about Nomenclature of alkenes, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halide. The Saytzeff rule, Hofmann elimination, physical properties and relative stabilities of alkenes.
- Understand about Nomenclature of benzene derivatives: Aromatic nucleus and side chain.
- Understand about Aromatic electrophilic substitution general pattern of the

mechanism, mechanism of nitration, halogenation, sulphonation, and Friedel-Crafts reaction

- Understand about Aromaticity: the Huckel rule, aromatic ions, annulenes up to 10 carbon atoms, aromatic, anti-aromatic and non-aromatic compounds.
- Understand about Mechanism of electrophilic and nucleophilic addition reactions, hydroboration-oxidation of alkynes

Year: 2<sup>nd</sup> Semester: 3<sup>rd</sup>

#### **Course: CH-201 INORGANIC CHEMISTRY**

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

- Learn about d-block elements and their properties
- Learn about theories, nomenclature, VBT for co-ordination compounds
- Learn about non-aqueous solvents Learn about f-block elements, their properties and their separation
- Know qualitative and quantitative analysis of elements and to learn Beer's and Lambert's law practically
- Have knowledge of preparation of some inorganic compounds

#### **Course: CH-202 PHYSICAL CHEMISTRY**

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

- Have the knowledge of thermodynamic phenomenon, Joule Thomson effect and measurement of these phenomenon
- Know about free energy, chemical potential and other related phenomenon
- Have the knowledge of Distribution law and its derivation.
- Have knowledge of cells, electrode and their working.
- Have the practical knowledge of heat of dissolution and heat of neutralization of acid and bases.

#### **Course: CH-203 ORGANIC CHEMISTRY**

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

- Know about Ultra Violet spectroscopy and the interpretation of compounds based on the spectroscopy.
- Learn the acidic nature of alcohols and phenols and factors associated with this
- Have knowledge of various functional group containing aldehyde, ketones and their properties and reactions.
- Know the reactions involves for alcohols and phenols and to know Infrared Spectroscopy involved and their examples
- Have practical knowledge to analyze the given organic compound based upon various observations.

Year: 2<sup>nd</sup> Semester: 4<sup>th</sup>

#### **Course: CH-204 INORGANIC CHEMISTRY**

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

- Learn about Lanthanides: Electronic structure, oxidation states, magnetic properties, complex formation, colour, ionic radii and lanthanide contraction, occurrence, separation of lanthanides, Lanthanide compounds.
- Learn about Actinides: General characteristics of actinides, chemistry of separation of Np, Pu and Am from uranium, Transuranic elements, comparison of properties of Lanthanides and actinides with transition elements.
- Learn about Chemistry of analysis of various groups of basic and acidic radicals, chemistry of identification of acid radicals in typical combination, chemistry of interference of acid radicals including their removal in the analysis of basic radicals
- Learn about common ion effect, solubility product, theory of precipitation, coprecipitation, post precipitation, purification of precipitates

#### **Course: CH-205 PHYSICAL CHEMISTRY**

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

- Learn about Second law of thermodynamics, need for the law, different statements of the law, Carnot's cycles and its efficiency, Carnot's theorm, Thermodynamics scale of temperature.
- Learn about Third law of thermodynamics: Nernst heat theorem, statement of concept of residual entropy, evaluation of absolute entropy from heat capacity data.
- Learn about Gibbs function (G) and Helmholtz function (A) as thermodynamic quantities, Gas criteria for thermodynamic equilibrium and spontaneity, its advantage over entropy change. Variation of G with P, V and T.
- Learn about Electrolytic and Galvanic cells reversible & irreversible cells, conventional representation of electrochemical cells
- Learn about Types of reversible electrodes metal- metal ion, gas electrode, metal insoluble salt- anion and redox electrodes. Electrode reactions, Nernst equations, derivation of cell EMF and single electrode potential.

#### **Course: CH-206 ORGANIC CHEMISTRY**

- Learn about Molecular vibrations, Hooke's law, selection rules, intensity and position of IR bands, measurement of IR spectrum, fingerprint region
- Learn about characteristic absorptions of various functional groups and interpretation of IR spectra of simple organic compounds.
- Learn about Applications of IR spectroscopy in structure elucidation of simple organic compounds
- Learn about Structure and nomenclature of amines, physical properties. Separation of a mixture of primary, secondary and tertiary amines. Structural features affecting basicity

of amines.

• Learn about Nomenclature and structure of the carbonyl group. Synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides.

Year: 3rd Semester: 5th

#### **Course: CH-301 INORGANIC CHEMISTRY**

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

- Have the knowledge of Crystal Filled Theory of transition metal complexes
- Know about the magnetic properties of transition metal complexes and methods to measure it
- Selection rules for d-d transition, spectroscopic ground states, spectrochemical series, orgel energy level diagram for d1 and d9 states, discussion of electronic spectrum of [Ti(H2O)6] +3 complex ion.
- Practically learn the analysis of inorganic salts
- Learn about the inorganic substances used in biological system like sodium, potassium

#### **Course: CH-302 PHYSICAL CHEMISTRY**

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

- Know about ideal and non-ideal solutions and colligative properties.
- Know about the Laws of Photochemistry and other phenomenon like florescence, phosphorescence.
- Have the knowledge black body radiation, quantum mechanical operators and other quantum mechanical phenomenon.
- Practically deduce the pH of acid and basic buffer via pH metrically and also have the knowledge of using different apparatus.
- Have the knowledge of various spectroscopies like UV, IR, Raman spectra and their application.

#### **Course: CH-303 ORGANIC CHEMISTRY**

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

- Have the knowledge of NMR Spectroscopy and its application to compounds
- Learn about carbohydrates, their structure determination, reactions and types.
- Know about various polymers and their preparation reactions with their applications.
- Have the knowledge of reactions of amino acids, proteins and their structures.
- Learn about TLC for organic compounds.

Year: 3rd Semester: 6th

#### **Course: CH-304 INORGANIC CHEMISTRY**

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

• Learn about Arrhenius, Bronsted-lowry, Lux-flood, solvent system and Lewis concept of acids and bases, relative strength of acids and bases.

- Learn about hard and soft acids and bases(HSAB), Applications of HSAB principle.
- Learn about Biological role of Na+, K+, Ca+2, Mg+2, Fe+2 ions, Cooperative effect, Bohr effect.
- Learn about preparation and uses of silicones, elastomers, polysiloxane copolymers, poly phosphazenes and bonding in triphosphazene

## **Course: CH-305 PHYSICAL CHEMISTRY**

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

- Learn about Laws of photochemistry: Grotthus-Drapper law, StarkEinstein law (law of photochemical equivalence), Jablonski diagram depiciting various processes occurring in the excited state,
- Learn about qualitative description of fluorescence, phosphorescence, non-radiative processes (internal conversion, intersystem crossing), quantum yield, photosensitized reactions-energy transfer processes (simple examples).
- Learn about Colligative properties: (i) relative lowering of vapour pressure (ii) Elevation in boiling point (iii) depression in freezing point (iv) osmotic pressure
- Learn about Thermodynamic derivation of relation between amount of solute and elevation in boiling point and depression in freezing point.

#### **Course: CH-306 ORGANIC CHEMISTRY**

- Learn about Condensation or step growth polymerization. Polyesters, polyamides, phenol formaldehyde resins. Natural and synthetic rubbers.
- Learn about Classification, of amino acids. Acid-base behavior, isoelectric point and electrophoresis. Preparation of  $\alpha$ -amino acids.
- Learn about Structures of peptides and proteins: Primary & Secondary structure.
- Learn about Skraup synthesis and Bischler-Napieralski synthesis. Mechanism of electrophilic substitution reactions of, quinoline and isoquinoline.
- Learn about the Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate.

## **Course Outcome: Botany**

Year: 1st Semester: 1st

#### **Course: BOT-I DIVERSITY OF MICROBES**

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

- Know the economic importance, and life cycles of several classes of general bacteria, algae, and fungus
- Describe their influence on the environment, human wellbeing, and industry roles
- Know the economic importance and harmful effects of viruses
- Know the economic importance of lichens and their role in environment

#### **Course: BOT-II CELL BIOLOGY**

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

- Explain the chemical composition and structure of cell wall and cell membrane
- Compare the structure and functions of organelles of a plant cell
- Describe the structure and organization of a chromosome
- Understand the process of cell division in plants

Year: 1st Semester: 2nd

#### **Course: BOT-I Diversity of Archegoniates**

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

- Understand the general characters, economic importance and life-cycles of various groups of Bryophytes and Pteridophytes
- Explain their role in industries and environment

#### **Course: BOT-II Genetics**

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

- Analyze the structures and chemical properties of DNA and RNA
- Understand the various steps of transcription, translation, protein modifications and gene regulation
- Understand of the laws of inheritance and gene interaction
- Comprehend the chromosomal abnormalities that lead to genetic disorders

Year: 2<sup>nd</sup> Semester: 3<sup>rd</sup>

#### Course: BOT-I BIOLOGY AND DIVERSITY OF SEED PLANTS-I

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

- Know the scope and importance of the discipline
- Understand the role of plants in human welfare.
- Understand the internal anatomy of different plant (Gymnosperms) organs with reference to their functions.

#### **Course: BOT-II PLANT ANATOMY**

- Understand the internal anatomy of different plant (angiosperms) organs with reference to their functions.
- Know the morphological and anatomical adaptations of plants growing in different habitats

Year: 2<sup>nd</sup> Semester: 4<sup>th</sup>

#### Course: BOT-I BIOLOGY AND DIVERSITY OF SEED PLANTS-II

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

- Botanical description of plants
- Discuss the essentials of plant taxonomy and taxonomic hierarchy
- Classification system of Bentham and Hooker
- Explain the concepts of numerical taxonomy and cladistics

#### **Course: BOT-II PLANT EMBRYOLOGY**

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

- Explain the developmental patterns of both vegetative and reproductive organs of plants
- Apply knowledge about embryological characters in explaining plant reproductive biology

Year: 3<sup>rd</sup> Semester: 5<sup>th</sup>

#### **Course: BOT-I PLANT PHYSIOLOGY**

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

- Explain plant water relations and elucidate mineral nutrients that plants require, how they are obtained, metabolized and transported.
- Describe physiological details of photosynthesis, and respiration in plants.
- Describe enzymes, hormones, environmental responses and nitrogen metabolism required for plant growth and development

#### **Course: BOT-II**

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

- Explain the concept of ecology and the influence of different environmental factors: climatic, physiographic and edaphic factors on plant life system.
- Comprehend the concept of phytogeographic zonation of India, biodiversity and its conservation.

Year: 3<sup>rd</sup> Semester: 6<sup>th</sup>

#### Course: BOT-I BIOCHEMISTRY AND PLANT BIOTECHNOLOGY

- Describe enzymes, hormones, environmental responses and nitrogen metabolism required for plant growth and development
- Understand the basics of enzymology and metabolism of nitrogen and lipid

- Understand the concepts and fundamentals of plant biotechnology
- Examine gene cloning and evaluate different methods of gene transfer
- Critically analyze the major concerns and applications of transgenic technology

## **Course: BOT-II ECONOMIC BOTANY**

- Enumerate various services and benefits provided by the plants like food, medicines, timber etc.
- Know the practical methods to cultivate and harvest various important plants and their parts.

## **Course Outcome: Zoology**

Year: 1st Semester: 1st

# Course: ZOO-I LIFE AND DIVERSITY FROM PROTOZOA TO PORIFERA AND CELL BIOLOGY-I

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

- Learn about classification, structural organization of non-Chordates.
- Understand evolutionary history and relationships of different non-Chordates through functional and structural affinities.
- Learn biodiversity and economic importance of phylum like protozoa and Porifera
- Understand the structure and functioning of plasma membrane, Endoplasmic Reticulum, Golgi apparatus, Mitochondria, Lysosomes, Ribosomes, cytoskeletal structures, Cilia and Flagella

# Course: ZOO-II LIFE AND DIVERSITY FROM COELENTRATA TO HELMINTHES AND CELL BIOLOGY-II

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

- Understand biodiversity and economic importance of phylum Coelenterata, Platyhelminthes and Aschelminths.
- Learn about importance of classification, structural organization of non-Chordates, metamerism in annelida
- Understand evolutionary history and relationships of different non-Chordates through functional and structural affinities.
- Understand the structure and functioning of Nucleus.
- Understand about Mitosis and Meiosis (Cell reproduction)
- Get an insight into cancers and its progression, therapies, genetic control of cancers.
- Acquire an elementary idea of cellular basis of Immunity.

#### Year: 1st Semester: 2nd

#### Course: ZOO-I Life and Diversity from Annelida to Arthropoda and Genetics-I

- Learn about Biodiversity and economic importance of phylum Annelida and Arthropoda.
- Learn about importance of classification, structural organization of non-Chordates
- Understand evolutionary history and relationships of different non-Chordates through functional and structural affinities.
- Apply the mendelian principles.
- Learn about mechanism of linkage & recombination
- Understand Sex determination and its mechanism, Sex linked inheritance especially Haemophilia and colour blindness in man

• Concept of Extra- chromosomal and cytoplasmic inheritance

### Course: ZOO-II Life and Diversity from Molluaska to Hemichordata and Genetics-II

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

- Learn about General characters and classification up to order level of phylum Mollusca, Echinodermata & Hemichordata
- Understands Biodiversity and economic importance of phylum Mollusca, Echinodermata & Hemichordata
- Learn about Multiple allelism, Human genetics, Inborn errors of metabolism
- Understand how DNA encodes genetic information and the function of mRNA and tRNA
- Understand the cause and effect of mutations
- Get an elementary idea of genetic counseling, pre-natal diagnostics, DNA-finger printing, transgenic animals.

Year: 2<sup>nd</sup> Semester: 3<sup>rd</sup>

#### Course: ZOO-I LIFE AND DIVERSITY OF CHORDATES-I

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

- Understand the Functional morphology of the types included (*Herdmania, Amphioxus, Pertomyzon and Labeo*) with special emphasis on the adaptations to their modes of life and environment
- Learn about the General characters and classification of all phyla up to orders with examples emphasizing their biodiversity, economic importance and conservation measures where required

#### Course: ZOO-II MAMMALIAN PHYSIOLOGY-I

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

- Understand about the importance and scope of biochemistry.
- Understand the Classification, Structure, function and general properties of proteins, Carbohydrates and lipids.
- Learn about Nomenclature, Classification and mechanisms of enzyme action and Transport through biomembranes (Active and Passive)
- Understand the basic idea of buffers in human body,
- Understand how mammalian body gets nutrition from different biomolecules
- Understand the process of digestion and excretion.
- Understand about Muscle physiology and muscle contraction.
- Learn about Bone structure & disorders of skeletal system

Year: 2<sup>nd</sup> Semester: 4<sup>th</sup>

#### Course: ZOO-I LIFE AND DIVERSITY OF CHORDATES-II

- Understand the Functional morphology of the types (*Rana, Hemidactylus, Columba livia, Rattus rattus*) included with special emphasis on the adaptations to their modes of life and environment
- Learn about the General characters and classification of all phyla up to orders with examples emphasizing their biodiversity, economic importance and conservation measures where required

#### Course: ZOO-II MAMMALIAN PHYSIOLOGY-II

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

- Understand the physiology at cellular and system levels
- Understand concepts of circulation such as heart beat, cardiac cycle, electrocardiogram, cardiac output, coagulation of blood, haempoiesis
- Understand the mechanism and regulation of breathing, oxygen consumption and determination of respiratory quotient
- Learn about mechanism of excretion
- Understand the organization of nervous system and process of nerve conduction
- Understand about different endocrine glands and their disorders and mechanism of hormone action
- Explain and contrast the processes of spermatogenesis, oogenesis
- Demonstrate an understanding of the hormonal control of reproduction in males and females
- Understand about menstrual cycle
- Distinguish between the main stages of embryonic, foetal development

## Year: 3<sup>rd</sup> Semester: 5<sup>th</sup>

## Course: ZOO-I ENVIRONMENTAL BIOLOGY

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

- Know the evolutionary and functional basis of animal ecology
- Understand what makes the scientific study of animal ecology a crucial and exciting endeavour.
- Understand the concept of growth and survival of populations and communities in different habitats, energy flow in the ecosystems, interactions between the communities, exclusion of niches and consequences of changing environment on the biodiversity
- Solve the environmental problems involving interaction of humans and natural systems at local or global level.
- Learn about Migration in fishes & birds and Parental care in animals

#### Course: ZOO-II EVOLUTION AND DEVELOPMENTAL BIOLOGY

- Understand how the field of developmental biology has changed since the beginning of the 19th century with different phases of developmental research predominating at different times
- Develop critical understanding how a single-celled fertilized egg becomes an embryo
- Know about various types of eggs, cleavage patterns
- Understand various phases of blastulation, fate maps of animals, Gastrulation and morphogenetic movement
- Enable the students to understand the evolution of universe and life
- Develop an understanding on the process and theories in evolutionary biology
- Develop an interest in the debates and discussion taking place in the field of evolutionary biology
- Acquire Elementary knowledge of primary organizers, extra embryonic membranes
- Understand the Concepts of competence, determination and differentiation, regeneration

Year: 3rd Semester: 6th

#### Course: ZOO-I AQUACULTURE AND PEST MANAGEMENT

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

- Understand Introduction to world fisheries, Fresh Water fisheries of India fisheries, cold water fisheries
- Learn about Fishing crafts and gears
- Understand about Fin fishes, Crustaceans, Molluscs and their culture
- Learn about important insect pests of crops such as sugarcane, wheat, cotton, paddy and vegetables

#### Course: ZOO-II AQUACULTURE AND PEST MANAGEMENT-II

- Understand the aquaculture systems such as Ponds-running water, recycled water, cage, culture; poly culture
- Learn about Seed production, Nutrition of fishes
- Acquire knowledge about Biotechnology, gene manipulation and cryopreservation of gametes
- Learn about pests of stored grains, bird and rodent pests of agriculture & their management
- Learn about IPM, Methods of pest control

## **Course Outcome: English**

Year: 1<sup>st</sup> Semester: 1<sup>st</sup>
Course: EN21 ENGLISH

After successful completion of the course, the students will be able to

- The importance of one of the most important literary genres i.e. Poetry and its role in the development of literature, culture and language and in understanding the complexity of various social issues
- Certain grammatical components i.e. verbs, nouns, pronoun, adjectives, adverbs, conjunctions, interjection etc. and their uses in sentence formation
- The importance of language for effective communication and transmission of information, ideas, thoughts and emotions in the desired manner.
- The importance of certain skills of composition i.e. paragraph writing and translation from Hindi into English in conveying the message in proper manner.
- The importance of language in the development of literature and vice versa.
- Certain tips of how to attempt a paragraph on any topic concerning students' life, social and environmental issues

Year: 1st Semester: 2nd

#### **Course: EN22 ENGLISH**

- Understand one of the most important genres of literature i.e. essay writing and how literature can be understood through essays
- How various social and national issues are dealt with in a comprehensive and socially acceptable manner
- The importance of certain composition skills i.e. paragraph writing, translation, letter writing etc. in order to effectively convey the message in official matters

## Course Outcome: Hindi/ Punjabi

Year: 2<sup>nd</sup> Semester: 3<sup>rd</sup> Course: HI23 HINDI

पाठ्यक्रम के सफल समापन पर, छात्र इसके बारे में जानेंगे

- विद्यार्थियों को अर्वाचीन कवियों के जीवन और उनकी विचारधारा से अवगत कराया जाता है । ये कवि है - मैथिलीशरण गुप्त , जयशंकर प्रसाद, सूर्यकांत त्रिपाठी 'निराला' ,रामधारी सिंह दिनकर।
- निर्धारित निबंधों के माध्यम से निबंध लिखना सिखाया जाता है।
- सरकारी और अर्ध सरकारी पत्र लिखने का तरीका बताया जाता है।
- वैज्ञानिक शब्दावली सिखाई जाती है।

OR

#### **Course: PU23 PUNJABI**

After the completion of the course, students will come to know about

- Punjabi Suffi poetry is a glorious asset to Punjabi literature, history and culture.
- Short stories give deep messages to the students and enrich students with grammar.

Year: 2<sup>nd</sup> Semester: 4<sup>th</sup>

## Course: HI24 HINDI

पाठ्यक्रम के सफल समापन पर, छात्र इसके बारे में जानेंगे

- संस्मरणों के माध्यम से रचनाकारों डाॅ रामकुमार वर्मा, उपेन्द्रनाथ अश्क, जगदीश चन्द्र माथुर, डाॅ लक्ष्मीनारायण लाल, विष्णु प्रभाकर, मोहन राकेश के जीवन से अवगत कराने का प्रयास किया जाएगा।
- निर्धारित निबंधों के माध्यम से निबंध लिखना सिखाया जाता है।
- अर्ध- सरकारी पत्र और तार लेखन का तरीका सिखाया जाता है।
- वैज्ञानिक शब्दावली द्वारा उनके ज्ञान में वृद्धि की जाती है।

OR

#### **Course: PU24 PUNJABI**

After the completion of the course, students will come to know about

- Punjabi Sufi and kissa kaav will connect the students with social life, Punjabi literature, the human intellect was reached a certain level.
- Short Stories give students long lasting messages of life and increase interest of students in Punjabi Literature.
- Enhance the knowledge of grammar.