Bachelor of Science (Hons.) Statistics

Programme Learning Outcomes

This course exposes the students to the beautiful world of Statistics and how it affects each and every aspect of our daily life. The course is designed to equip students with all the major concepts of Statistics along with the tools required to implement them. Introduction to computer software help them in analysis of data by making optimum usage of time and resources. These software give them the necessary support and an edge when progressing to their professional careers. Exposure to plethora of real life data helps in honing their analytical skills. Having practical component with every paper invokes their exploratory side and fine-tunes the interpretation abilities. Such a pedagogy goes a long way in giving them the required impetus and confidence for consultancy start ups/jobs in near future. The structure of the course also motivates/helps the students to pursue careers in related disciplines, especially the data sciences, financial statistics and actuarial sciences.

STAT-C-101: Descriptive Statistics

Course Learning Outcomes:

- i. Concepts of statistical population and sample, variables and attributes.
- ii. Tabular and graphical representation of data based on variables.
- iii. Conditions for the consistency' and criteria for the independence of data based on attributes.
- iv. Measures of central tendency, Dispersion, Skewness and Kurtosis.
- v. Moments and their use in studying various characteristics of data.
- vi. Different approaches to the theory of probability.
- vii. Important theorems on probability and their use in solving problems.
- viii. Concept of random variables and its probability distributions.

- ix. Concept of joint, marginal and conditional probability distribution for two dimensional random variables and their independence.
- x. Univariate transformation and expectation of random variables.

STAT-C-102: CALCULUS

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. The fundamental concepts of Differential calculus.
- ii. Solving complicated integrals.
- iii. Finding complete Solution of differential equations.
- iv. Searching solution of partial differential equation.

STAT-C-201: Probability and Probability Distributions

Course Learning Outcomes:

After completing this course, there should be a clear understanding of:

- i. The fundamental concept of expectation for univariate and bivariate random variables with their distributions and properties.
- ii. Moment generating function, cumulant generating function and characteristic function.
- iii. Discrete probability distributions with their properties.
- iv. Continuous probability distributions with their properties.

STAT C-202: Algebra

Course Learning Outcomes:

- i. Theory of Equations
- ii. The fundamental concepts of matrices and determinants

- iii. Echelon form
- iv. Linear equations
- v. Rank of a Matrix
- vi. Characteristic roots and vectors
- vii. Quadratic forms
- viii. Partitioning of matrices
 - ix. Generalized inverse

STAT-C-301: Sampling Distributions

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. Laws of convergence, their inter relations and applications.
- ii. Central Limit Theorem and its applications.
- iii. Order statistics and distribution of sample median and range.
- iv. Basic concepts of hypothesis testing, including framing of null and alternative hypothesis.
- v. Hypothesis testing based on a single sample and two samples using both classical and p value approach.
- vi. Chi square distribution.
- vii. Analyze categorical data by using Chi square techniques.
- viii. t and F distributions and their applications.

STAT-C-302: Survey Sampling and Indian Official Statistics

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

i. The fundamental concepts of population and sample. (or The basic concepts of survey)

- ii. The principles of sample survey and the steps involved in selecting a sample.
- iii. Simple Random Sampling.
- iv. Stratified Sampling.
- v. Systematic Sampling.
- vi. Ratio and Regression Methods of Estimation.
- vii. Cluster Sampling (equal size clusters).
- viii. Sub Sampling.
 - ix. Indian Official Statistics

STAT-C-303: Mathematical Analysis

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. Fundamental properties of real number and real-valued functions.
- ii. Analytical properties of sequences.
- iii. Infinite series, their properties and different tests.
- iv. Limits, continuity, differentiability and mean value theorems.
- v. Fundamentals of numerical analysis, interpolation, numerical integration and difference equation.

STAT-C-401: Statistical Inference

Course Learning Outcomes:

- 1. Different methods of finding point estimators for unknown population parameters, their advantages and disadvantages:
 - a. Maximum Likelihood Estimation
 - b. Method of Moments

- c. Method of Minimum Chi square and Modified Minimum Chi square
- 2. Desirable properties of point estimators based on which estimators can be compared:
 - d. Unbiasedness
 - e. Consistency
 - f. Efficiency
 - g. Sufficiency
- 3. Methods to develop/find best point estimators based on the desirable properties (Using Cramer- Rao inequality, Rao-Blackwell theorem, and Lehmann-Scheffe Theorem).
- 4. General methods of constructing interval estimators (Confidence Intervals) for unknown population parameters.
- 5. Basic principle of Bayesian estimation (Finding posterior distributions of unknown population parameters).
- Developing/ constructing best/most powerful statistical tests to test hypotheses regarding unknown population parameters (Using Neyman-Pearson Lemma and Likelihood Ratio tests).
- 7. Practical applications of estimation theory and hypothesis testing pertaining to all discussed methods.

STAT-C-402: Linear Models

Course Learning Outcomes:

- i. Theory and estimation of Linear Models.
- ii. Gauss-Markov Theorem and its use.
- iii. Distribution of quadratic forms.
- iv. Simple and Multiple linear regression models and their applications.
- v. Fitting of these models to real or synthetic data, derivation of confidence and prediction intervals, and a sound scientific interpretation of the results.

- vi. Techniques of Analysis of Variance and Covariance under fixed effects model.
- vii. Assessment of the quality of the fit using classical diagnostics, awareness of potential problems (outliers, etc.) and application of remedies to deal with them.

STAT-C-403: Statistical Quality Control

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. Statistical process control tools- Control charts for variables, attributes.
- ii. Statistical product control tools- Sampling inspection plans.
- iii. Overview of Six sigma- Lean manufacturing, TQM.
- iv. Overview of Six sigma training plans, VOC, CTQ.
- v. Weighted and Unweighted Index Numbers.
- vi. Base shifting, splicing and deflating of Index Numbers.

STAT-C-501: Stochastic Processes and Queuing Theory

Course Learning Outcomes:

- i. The fundamental concepts of stochastic processes.
- ii. Tools needed to analyze stochastic processes.
- iii. Markov processes and Markov chains.
- iv. Stability of Markov chains.
- v. Poisson process and its variations.
- vi. Queuing systems.
- vii. Random walk and ruin theory.

STAT-C-502: Statistical Computing Using C/C++ Programming

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. Various data types, operators, library functions, Input/Output operations.
- ii. Decision making and branching and looping.
- iii. Arrays, Character and strings.
- iv. User- defined functions, recursion functions.
- v. Storage class of Variables.
- vi. Pointers.
- vii. Pointers and arrays, arrays of pointers, pointers as function arguments, functions returning pointers.
- viii. Structure, array of structures, structure pointers.
 - ix. Dynamic memory allocation functions.
 - x. Pre-processors: Macro substitution, macro with argument.
 - xi. File inclusion in C/C++, I/O operations on files.

STAT-C-601: Design of Experiments

Course Learning Outcomes:

- i. The fundamental concepts of design of experiments.
- ii. Introduction to planning valid and economical experiments within given resources.
- iii. Completely randomized design.
- iv. Randomized block design.
- v. Latin square design.
- vi. Balanced incomplete block design.
- vii. Full and confounded factorial designs with two and three levels.
- viii. Fractional factorial designs with two levels.

STAT-C-602: Multivariate Analysis and Non-Parametric Methods

Course Learning Outcomes:

On completion of the course, students should have achieved the following:

- The understanding of basic concepts associated with Multivariate Normal Distributions and their properties with special emphasis on Bivariate Normal Distribution.
- ii. Analyzing Multivariate data using data reduction techniques like Principal Component Analysis, Factor Analysis.
- iii. Classification method namely Discriminant Analysis.
- Application of Wald's SPRT for testing simple null hypothesisvs simple alternative hypothesis along with the study of the O.C. function and the ASN function for various underlying continuous and discrete distributions.
- v. Testing of hypothesis using Non-Parametric tests like Median test, Runs test, U test, Kruskal Wallis test etc. and ability to use them judiciously for the testing of given data.

STAT-DSE – 1 (A): Time Series Analysis

Course Learning Outcomes:

After completing this course, the students will possess skills to understand the components and forecast values of a time series at future time points.

STAT-DSE-1(B): Demography and Vital Statistics

Course Learning Outcomes:

- i. Distinction between Vital Statistics and Demography.
- ii. Errors in Demographic data.

- iii. To check the completeness of registration data using Chandrasekaran-Deming formula.
- iv. Use of Myer's and UN indices in evaluating age data.
- v. Use of Balancing Equations.
- vi. Population Composition and Dependency Ratio.
- vii. Sources of data collection on Vital Statistics and errors therein.
- viii. Measurement of Population.
 - ix. Distinction between Rate and Ratio.
 - x. Basic measures of Mortality.
- xi. Concepts of Stable and Stationary Populations.
- xii. Concept of Life Tables, their construction and uses.
- xiii. Concept of Abridged life tables and their construction by Reed and Merrell method, Greville's method and King's Method.
- xiv. Basic measures of Fertility.
- xv. Measures of Population Growth.

STAT-DSE-2(A): Operations Research

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. The fundamental concepts of Operational Research Techniques
- ii. Linear Programming.
- iii. Transportation and assignment problems
- iv. Game Theory
- v. Inventory Models

STAT-DSE 2-(B): Econometrics

Course Learning Outcomes:

- i. The fundamental concepts of econometrics.
- ii. Specification of the model.
- iii. Multiple Linear Regression.
- iv. Multicollinearity.
- v. Heteroscedasticity.
- vi. Autocorrelation.
- vii. Autoregressive and Lag models.

STAT-DSE-3(A): Actuarial Statistics

Course Learning Outcomes:

Tools for applying actuarial methods in phenomena for financial research and insurance. This includes computation of premiums and settlement of claims.

STAT-DSE-3(B): Biostatistics and Survival Analysis

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. The fundamental concepts of survival functions and their interrelationship.
- ii. Survival distributions and their applications.
- iii. Handling censored data and estimating mean survival time.
- iv. Actuarial and Kaplan-Meier methods (Non- parametric methods).
- v. Competing Risk Theory. Dependent and independent risk.
- vi. Simple Stochastic epidemic model.
- vii. Basic concept of genetics.
- viii. Need of Clinical drug trials.

STAT-DSE-4(A): Financial Statistics

Course Learning Outcomes:

- i. The fundamental concepts of investments and products of financial markets.
- ii. Derivative markets.
- iii. Continuous time stochastic processes.
- iv. Brownian motion and Wiener process.
- v. Stochastic calculus and Itô Calculus.
- vi. Stochastic differential equations.
- vii. Black Scholes' model.
- viii. Hedging of financial portfolios.

STAT-DSE-4(B): Project Work

Course Learning Outcomes:

The project work will provide hands on training to the students to deal with data and relate it to some theoretical concepts.

STAT- SEC-1: Data Analysis Using Software Packages (SPSS)

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of SPSS.

STAT-SEC-1: Data Analysis Using Software Packages (MATLAB)

Course Learning Outcomes:

After completing this course, students will possess skills concerning

- i. Basic programming in MATLAB.
- ii. Ability to solve statistical problems, numerical methods.
- iii. Basic symbolic computations.

STAT-SEC-2: Statistical Data Analysis Using R

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. Various Graphical representation and interpretation of data.
- ii. Automated reports giving detailed descriptive statistics.
- iii. Understanding data and fitting suitable distribution.
- iv. Testing of hypothesis, p-value and confidence interval.
- v. Random number generation and sampling procedures.
- vi. Importing data, Code editing in R and flow controls if (), for (), while ().

STAT-SEC-3: Statistical Techniques for Research Methods

Course Learning Outcomes:

After completion of this course, students should have developed a clear understanding of:

- i. Research methodology.
- ii. Research Problem.
- iii. Research Designs.
- iv. Comparative study of different methods of data collection.
- v. Guidelines for construction of questionnaires.
- vi. Processing and Analysis of data.
- vii. Interpretation and Report writing.

STAT SEC-4: Statistical Simulation Techniques

Course Learning Outcomes:

After completing this course, students will possess skills concerning:

- i. Use of simulation to understand the behavior of real world systems.
- ii. Ability to generate Pseudo-random numbers by the different methods.
- iii. Random variable generation from theoretical distributions.
- iv. Use of Monte Carlo methods and regenerative simulation.
- v. Ability to develop programs for the purpose of simulation.

STAT-GE-1: Statistical Methods

Course Learning Outcomes:

Upon successful completion of this course students will demonstrate knowledge of:

- i. Introduction to Statistics, definitions and data classification, types of studies and types of samples.
- ii. Graphical displays of data, frequency distributions, analyzing graphs.
- iii. Numerical descriptions of data, measures of center tendency, measures of dispersion, skewness and kurtosis.
- iv. Correlation and regression.
- v. Theory of attributes.

STAT-GE-2: Introductory Probability

Course Learning Outcomes:

After completing this course, students should have developed a clear understanding of:

- i. The fundamental concepts of Probability Theory.
- ii. Solving probabilistic problems.
- iii. Understanding random variables and computing properties of distribution they follow.
- iv. Different probability distributions and their implementation at realistic models.

STAT-GE-3: Basics of Statistical Inference

Course Learning Outcomes:

- i. Theory of estimation.
- ii. Tests of hypothesis.

- iii. Application of Chi-square test.
- iv. Nonparametric tests.
- v. Analysis of variance.
- vi. Fundamentals and analysis of basic designs (CRD, RCBD).
- vii. Bioassay.

STAT-GE-4: Applied Statistics

Course Learning Outcomes:

- i. Time series data, components of time series data, study the behavior and identifying the variation due to different components in the data.
- ii. They will study to identify and measure various components of time series data.
- iii. The fundamental concepts of Index Numbers, Construction of price and quantity Index numbers.
- iv. Construction of Wholesale and Consumer price Index and its significance.
- v. Statistical Quality Control, Use of Statistical methods in industrial research and practice.
- vi. Chance and Assignable causes of variation in data.
- vii. Statistical process control tools- Control charts for variables and attributes.
- viii. To learn about different demographic methods. Measurement of mortality and fertility rates, reproduction and population growth measures.
- ix. Construction and importance of Life Table.

Bachelor of Science (Hons.) Mathematics

Programme Learning Outcomes:

The completion of the B.Sc. (Hons.) Mathematics Programme will enable a student to:

- 1. Communicate mathematics effectively by written, computational and graphic means.
- 2. Create mathematical ideas from basic axioms.
- 3. Gauge the hypothesis, theories, techniques and proofs provisionally.
- 4. Utilize mathematics to solve theoretical and applied problems by critical understanding, analysis and synthesis.
- 5. Identify applications of mathematics in other disciplines and in the realworld, leading to enhancement of career prospects in a plethora of fields and research.

BMATH101: Calculus

Course Learning Outcomes:

This course will enable the students to:

- i. Learn first and second derivative tests for relative extrema and apply the knowledge in problems in business, economics and life sciences.
- ii. Sketch curves in a plane using its mathematical properties in the different coordinate systems of reference.
- iii. Compute area of surfaces of revolution and the volume of solids by integrating over cross-sectional areas.
- iv. Understand the calculus of vector functions and its use to develop the basic principles of planetary motion.

BMATH102: Algebra

Course Learning Outcomes:

- i. Employ De-Moivre's theorem in a number of applications to solve numerical problems.
- ii. Learn about equivalent classes and cardinality of a set.
- iii. Use modular arithmetic and basic properties of congruences.
- iv. Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix.
- v. Find eigenvalues and corresponding eigenvectors for a square matrix.

BMATH203: Real Analysis

Course Learning Outcomes:

This course will enable the students to:

- i. Understand many properties of the real line R, including completeness and Archimedean properties.
- ii. Learn to define sequences in terms of functions from \mathbb{N} to a subset of \mathbb{R} .
- Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence.
- Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers.

BMATH204: Differential Equations

Course Learning Outcomes:

This course will enable the students to:

- i. Learn basics of differential equations and mathematical modelling.
- ii. Formulate differential equations for various mathematical models.
- iii. Solve first order non-linear differential equations and linear differential equations of higher order using various techniques.
- iv. Apply these techniques to solve and analyse various mathematical models.

BMATH305: Theory of Real Functions

Course Learning Outcomes:

This course will enable the students to:

- i. Have a rigorous understanding of the concept of limit of a function.
- ii. Learn about continuity and uniform continuity of functions defined on intervals.
- iii. Understand geometrical properties of continuous functions on closed and bounded intervals.
- iv. Learn extensively about the concept of differentiability using limits, leading to a better understanding for applications.
- v. Know about applications of mean value theorems and Taylor's theorem.

BMATH306: Group Theory-I

Course Learning Outcomes:

This course will enable the students to:

- i. Recognize the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups, etc.
- ii. Link the fundamental concepts of groups and symmetrical figures.
- iii. Analyse the subgroups of cyclic groups and classify subgroups of cyclic groups.
- iv. Explain the significance of the notion of cosets, normal subgroups and factor groups.
- v. Learn about Lagrange's theorem and Fermat's Little theorem.
- vi. Know about group homomorphisms and group isomorphisms.

BMATH307: Multivariate Calculus

Course Learning Outcomes:

- i. Learn the conceptual variations when advancing in calculus from one variable to multivariable discussion.
- ii. Understand the maximization and minimization of multivariable functions subject to the given constraints on variables.
- iii. Learn about inter-relationship amongst the line integral, double and triple integral formulations.
- iv. Familiarize with Green's, Stokes' and Gauss divergence theorems.

SEC-1: LaTeX and HTML (Skill Enhancement Paper)

Course Learning Outcomes:

After studying this course, the student will enable to:

- i. Create and typeset a LaTeX document.
- ii. Typeset a mathematical document using LaTeX.
- iii. Learn about pictures and graphics in LaTeX.
- iv. Create beamer presentations.
- v. Create web page using HTML.

BMATH408: Partial Differential Equations

Course Learning Outcomes:

This course will enable the students to:

- i. Formulate, classify and transform first order PDEs into canonical form.
- ii. Learn about method of characteristics and separation of variables to solve first order PDE's.
- iii. Classify and solve second order linear PDEs.
- iv. Learn about Cauchy problem for second order PDE and homogeneous and nonhomogeneous wave equations.
- v. Apply the method of separation of variables for solving many well-known second order PDEs.

BMATH409: Riemann Integration & Series of Functions

Course Learning Outcomes:

- Learn about some of the classes and properties of Riemann integrable functions, and the applications of the Fundamental theorems of integration.
- ii. Know about improper integrals including, beta and gamma functions.
- iii. Learn about Cauchy criterion for uniform convergence and Weierstrass Mtest for uniform convergence.
- iv. Know about the constraints for the inter-changeability of differentiability and integrability with infinite sum.

v. Approximate transcendental functions in terms of power series as well as, differentiation and integration of power series.

BMATH410: Ring Theory & Linear Algebra-I

Course Learning Outcomes:

This course will enable the students to:

- i. Learn about the fundamental concept of rings, integral domains and fields.
- ii. Know about ring homomorphisms and isomorphisms theorems of rings.
- iii. Learn about the concept of linear independence of vectors over a field, and the dimension of a vector space.
- iv. Basic concepts of linear transformations, dimension theorem, matrix representation of a linear transformation, and the change of coordinate matrix.

SEC-2: Computer Algebra Systems and Related Software (Skill Enhancement Paper)

Course Learning Outcomes:

This course will enable the students to:

- i. Use of computer algebra systems (Mathematica/MATLAB/Maxima/Maple etc.) as a calculator, for plotting functions and animations
- ii. Use of CAS for various applications of matrices such as solving system of equations and finding eigenvalues and eigenvectors.
- Understand the use of the statistical software R as calculator and learn to read and get data into R.
- iv. Learn the use of **R** in summary calculation, pictorial representation of data and exploring relationship between data.
- v. Analyse, test, and interpret technical arguments on the basis of geometry.

BMATH511: Metric Spaces

Course Learning Outcomes:

- i. Learn various natural and abstract formulations of distance on the sets of usual or unusual entities. Become aware one such formulations leading to metric spaces.
- ii. Analyse how a theory advances from a particular frame to a general frame.
- iii. Appreciate the mathematical understanding of various geometrical concepts, viz. balls or connected sets etc. in an abstract setting.
- iv. Know about Banach fixed point theorem, whose far-reaching consequences have resulted into an independent branch of study in analysis, known as fixed point theory.
- v. Learn about the two important topological properties, namely connectedness and compactness of metric spaces.

BMATH512: Group Theory-II

Course Learning Outcomes:

This course will enable the students to:

- i. Learn about automorphisms for constructing new groups from the given group.
- ii. Learn about the fact that external direct product applies to data security and electric circuits.
- iii. Understand fundamental theorem of finite abelian groups.
- iv. Be familiar with group actions and conjugacy in S_n .
- v. Understand Sylow theorems and their applications in checking nonsimplicity.

Discipline Specific Elective Course:

DSE-1 (i): Numerical Analysis

Course Learning Outcomes:

- i. Learn some numerical methods to find the zeroes of nonlinear functions of a single variable and solution of a system of linear equations, up to a certain given level of precision.
- ii. Know about methods to solve system of linear equations, such as Gauss-Jacobi, Gauss-Seidel and SOR methods.

- iii. Interpolation techniques to compute the values for a tabulated function at points not in the table.
- iv. Applications of numerical differentiation and integration to convert differential equations into difference equations for numerical solutions.

DSE-1 (ii): Mathematical Modelling and Graph Theory

Course Learning Outcomes:

This course will enable the students to:

- i. Know about power series solution of a differential equation and learn about Legendre's and Bessel's equations.
- ii. Use of Laplace transform and inverse transform for solving initial value problems.
- iii. Learn about various models such as Monte Carlo simulation models, queuing models and linear programming models.
- Understand the basics of graph theory and learn about social networks, Eulerian and Hamiltonian graphs, diagram tracing puzzles and knight's tour problem.

DSE-1 (iii): C++ Programming for Mathematics

Course Learning Outcomes:

This course will enable the students to:

- i. Understand and apply the programming concepts of C++ which is important to mathematical investigation and problem solving.
- Learn about structured data-types in C++ and learn about applications in factorization of an integer and understanding Cartesian geometry and Pythagorean triples.
- iii. Use of containers and templates in various applications in algebra.
- iv. Use mathematical libraries for computational objectives.
- v. Represent the outputs of programs visually in terms of well formatted text and plots.

DSE-2 (i): Probability Theory and Statistics

Course Learning Outcomes:

This course will enable the students to:

- i. Learn about probability density and moment generating functions.
- ii. Know about various univariate distributions such as Bernoulli, Binomial,Poisson, gamma and exponential distributions.
- iii. Learn about distributions to study the joint behaviour of two random variables.
- iv. Measure the scale of association between two variables, and to establish a formulation helping to predict one variable in terms of the other, i.e., correlation and linear regression.
- v. Understand central limit theorem, which helps to understand the remarkable fact that the empirical frequencies of so many natural populations, exhibit a bell-shaped curve, i.e., a normal distribution.

DSE-2 (ii): Discrete Mathematics

Course Learning Outcomes:

This course will enable the students to:

- i. Understand the notion of ordered sets and maps between ordered sets.
- ii. Learn about lattices, modular and distributive lattices, sublattices and homomorphisms between lattices.
- iii. Become familiar with Boolean algebra, Boolean homomorphism, Karnaugh diagrams, switching circuits and their applications.
- iv. Learn about basics of graph theory, including Eulerian graphs, Hamiltonian graphs.
- v. Learn about the applications of graph theory in the study of shortest path algorithms.

DSE-2 (iii): Cryptography and Network Security

Course Learning Outcomes:

- i. Understand the fundamentals of cryptography and computer security attacks.
- ii. Learn about various ciphers and data encryption standard.
- iii. Review basic concepts of number theory and finite fields.

- iv. Learn about advanced encryption standard.
- v. Understand the fundamentals of RSA and elliptic curve cryptography.
- vi. Encrypt and decrypt messages using block ciphers, sign and verify messages using well known signature generation and verification algorithms.

BMATH613: Complex Analysis

Course Learning Outcomes:

This course will enable the students to:

- i. Learn the significance of differentiability of complex functions leading to the understanding of Cauchy–Riemann equations.
- ii. Learn some elementary functions and valuate the contour integrals.
- iii. Understand the role of Cauchy–Goursat theorem and the Cauchy integral formula.
- Expand some simple functions as their Taylor and Laurent series, classify the nature of singularities, find residues and apply Cauchy Residue theorem to evaluate integrals.

BMATH614: Ring Theory and Linear Algebra-II

Course Learning Outcomes:

This course will enable the students to:

- i. Appreciate the significance of unique factorization in rings and integral domains.
- ii. Compute the characteristic polynomial, eigenvalues, eigenvectors, and eigenspaces, as well as the geometric and the algebraic multiplicities of an eigenvalue and apply the basic diagonalization result.
- iii. Compute inner products and determine orthogonality on vector spaces, including Gram–Schmidt orthogonalization to obtain orthonormal basis.
- iv. Find the adjoint, normal, unitary and orthogonal operators.

Discipline Specific Elective Course:

DSE-3 (i): Mathematical Finance

Course Learning Outcomes:

This course will enable the students to:

- i. Know the basics of financial markets and derivatives including options and futures.
- ii. Learn about pricing and hedging of options, as well as interest rate swaps.
- iii. Learn about no-arbitrage pricing concept and types of options.
- iv. Learn stochastic analysis (Ito formula, Ito integration) and the Black–Scholes model.
- v. Understand the concepts of trading strategies and valuation of currency swaps.

DSE-3 (ii): Introduction to Information Theory and Coding

Course Learning Outcomes:

This course will enable the students to:

- i. Learn about the basic concepts of information theory.
- ii. Know about basic relationship among different entropies and interpretation of Shannon's fundamental inequalities.
- iii. Learn about the detection and correction of errors while transmission.
- iv. Representation of a linear code by matrices.
- v. Learn about encoding and decoding of linear codes

DSE-3 (iii): Biomathematics

Course Learning Outcomes:

Apropos conclusion of the course will empower the student to:

- i. Learn the development, analysis and interpretation of bio mathematical models such as population growth, cell division, and predator-prey models.
- ii. Learn about the mathematics behind heartbeat model and nerve impulse transmission model.
- iii. Appreciate the theory of bifurcation and chaos.
- iv. Learn to apply the basic concepts of probability to molecular evolution and genetics.

DSE-4 (i): Number Theory

Course Learning Outcomes:

This course will enable the students to:

- Learn about some fascinating discoveries related to the properties of prime numbers and some of the open problems in number theory, viz., Goldbach conjecture etc.
- ii. Know about number theoretic functions and modular arithmetic.
- iii. Solve linear, quadratic and system of linear congruence equations.
- iv. Learn about public key crypto systems, in particular, RSA.

DSE-4 (ii): Linear Programming and Applications

Course Learning Outcomes:

This course will enable the students to:

- i. Learn about the graphical solution of linear programming problem with two variables.
- ii. Learn about the relation between basic feasible solutions and extreme points.
- iii. Understand the theory of the simplex method used to solve linear programming problems.
- iv. Learn about two-phase and big-M methods to deal with problems involving artificial variables.
- v. Learn about the relationships between the primal and dual problems.
- vi. Solve transportation and assignment problems.
- vii. Apply linear programming method to solve two-person zero-sum game problems.

DSE-4 (iii): Mechanics

Course Learning Outcomes:

- i. Know about the concepts in statics such as moments, couples, equilibrium in both two and three dimensions.
- ii. Understand the theory behind friction and centre of gravity.
- iii. Calculate moments of inertia of areas and rigid bodies.
- iv. Know about conservation of mechanical energy and work-energy equations.

v. Learn about translational and rotational motion of rigid bodies.

<u>Generic Elective (GE) Course- Mathematics</u> (For students other than B.Sc. (Hons.) Mathematics)

Any one of the following:

GE-1: Calculus GE-1: Analytic Geometry and Theory of Equations

GE-1: Calculus

Course Learning Outcomes:

This course will enable the students to:

- i. Sketch the curves in Cartesian and polar coordinates as well as learn techniques of sketching the conics.
- ii. Visualize three dimensional figures and calculate their volumes and surface areas.
- iii. Understand limits, continuity and derivatives of functions of several variable and vector-valued functions.

GE-1: Analytic Geometry and Theory of Equations

Course Learning Outcomes:

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

- Classify and sketch conics four different types of conic sections the circle, the ellipse, the hyperbola and the parabola – in Cartesian and polar coordinates.
- ii. Visualize three dimensional objects spheres and cylinders using vectors.
- iii. Understand the properties of roots of polynomial equations.

Any one of the following:

GE-2: Linear Algebra GE-2: Discrete Mathematics

GE-2: Linear Algebra

Course Learning Outcomes:

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

- i. Visualize the space \mathbb{R}^n in terms of vectors and the interrelation of vectors with matrices, and their application to computer graphics.
- ii. Familiarize with concepts in vector spaces, namely, basis, dimension and minimal spanning sets.
- iii. Learn about linear transformations, transition matrix and similarity.
- iv. Learn about orthogonality and to find approximate solution of inconsistent system of linear equations.

GE-2: Discrete Mathematics

Course Learning Outcomes:

This course will enable the students to:

- i. Understand the basic principles of logic, set theory, lattices and Boolean algebra.
- ii. Understand the ideas of mathematical induction and basic counting techniques.
- iii. Proficiently construct logical arguments and rigorous proofs.

Any one of the following:

GE-3: Differential Equations (with Practical) GE-3: Linear Programming and Game Theory

GE-3: Differential Equations (with Practical)

Course Learning Outcomes:

The students will be able to:

- i. Solve the exact, linear and Bernoulli equations and find orthogonal trajectories.
- ii. Apply the method of variation of parameters to solve linear differential equations.
- iii. Formulate and solve various types of first and second order partial differential equations.

GE-3: Linear Programming and Game Theory

Course Learning Outcomes:

- i. Learn about the simplex method used to find optimal solutions of linear optimization problems subject to certain constraints.
- ii. Write the dual of a linear programming problem.
- iii. Solve the transportation and assignment problems.
- iv. Learn about the solution of rectangular games using graphical method and using the solution of a pair of associated prima-dual linear programming problems.

Any one of the following:

GE-4: Numerical Methods (with Practical) GE-4: Elements of Analysis

GE-4: Numerical Methods (with Practical)

Course Learning Outcomes:

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

- i. Find the consequences of finite precision and the inherent limits of numerical methods.
- ii. Appropriate numerical methods to solve algebraic and transcendental equations.
- iii. Solve first order initial value problems of ODE's numerically using Euler methods.

GE-4: Elements of Analysis

Course Learning Outcomes:

- i. Understand the real numbers and their basic properties.
- ii. Be familiar with convergent and Cauchy sequences.
- iii. Test the convergence and divergence of infinite series of real numbers.
- iv. Learn about power series expansion of some elementary functions.

Bachelor of Science (Hons.) Computer Science

Programme Learning Outcomes:

- 1. Ability to analyze a problem and identify and define the computing requirements appropriate to its solution.
- 2. Ability to design, implement, and evaluate a computer-based system, process, component, or program to solve the given problem.
- 3. Ability to communicate effectively through oral and written means.
- 4. Ability to work in a team to achieve a common goal

Computer System Architecture (BHCS02) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Design Combinational Circuits using basic building blocks. Simplify these circuits using Boolean algebra and Karnaugh maps. Differentiate between combinational circuits and sequential circuits.
- ii. Represent data in binary form, convert numeric data between different number systems and perform arithmetic operations in binary.
- iii. Determine various stages of instruction cycle and describe interrupts and their handling.
- iv. Explain how CPU communicates with memory and I/O devices.
- v. Simulate the design of a basic computer using a software tool

Programming in JAVA (BHCS03) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Implement Exception Handling and File Handling.
- ii. Implement multiple inheritance using Interfaces.
- iii. Logically organize classes and interfaces using packages.
- iv. Use AWT and Swing to design GUI applications.

Discrete Structures (BHCS04) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Define mathematical structures (relations, functions, sequences, series, and graphs) and use them to model real life situations.
- ii. Understand (trace) and construct simple mathematical proofs using logical arguments.
- iii. Solve class room puzzles based on counting principles.
- iv. Compare functions and relations with respect to their growth for large values of the input.

Data Structures (BHCS05) Discipline Specific Core Course - (DSC)

Course Learning Outcomes:

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

- Implement and empirically analyse linear and non-linear data structures like Arrays, Stacks, Queues, Lists, Trees, Heaps and Hash tables as abstract data structures. (RBT L2/3)
- ii. Write a program, choosing a data structure, best suited for the application at hand. (RBT L3/4)
- iii. Re-write a given program that uses one data structure, using a more appropriate/efficient data structure (RBT L4)

- iv. Write programs using recursion for simple problems. Explain the advantages and disadvantages of recursion. (RBT L2/L3)
- v. Identify Ethical Dilemmas.

Operating system (BHCS06) Discipline Specific Core Course - (DSC) Credit: <u>06</u>

Course Learning Outcomes:

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

- i. Implement multiprogramming, multithreading concepts for a small operating system.
- ii. Create, delete, and synchronize processes for a small operating system.
- iii. Implement simple memory management techniques.
- iv. Implement CPU and disk scheduling algorithms.
- v. Use services of modern operating system efficiently
- vi. Implement a basic file system.

Computer Networks (BHCS07) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Describe the hardware, software components of a network and their interrelations.
- ii. Compare OSI and TCP/IP network models.
- iii. Describe, analyze and compare different data link, network, and transport layer protocols.
- iv. Design/implement data link and network layer protocols in a simulated networking environment.

Design and Analysis of Algorithms (BHCS08) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Given an algorithm, identify the problem it solves.
- Write algorithms choosing the best one or a combination of two or more of the algorithm design techniques: Iterative, divide-n-conquer, Greedy, Dynamic Programming using appropriate data structures.
- iii. Write proofs for correctness of algorithms.
- iv. Re-write a given algorithm replacing the (algorithm design) technique used with a more appropriate/efficient (algorithm design) technique.

Software Engineering (BHCS09) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Analyse and model customer's requirements and model its software design.
- ii. Use suitable software model for the problem at hand.
- iii. Estimate cost and efforts required in building software.
- iv. Analyse and compute impact of various risks involved in software development.
- v. Design and build test cases, and to perform software testing.

Database Management Systems (BHCS10) Discipline Specific Core Course -(DSC) Credit: 06

Course Learning Outcomes:

On successful completion of the course, students will:

i. Describe major components of DBMS and their functions

- ii. Model an application's data requirements using conceptual modelling tools like ER diagrams and design database schemas based on the conceptual model.
- iii. Write queries in relational algebra / SQL
- iv. Normalize a given database schema to avoid data anomalies and data redundancy.
- v. Describe the notions of indexes, views, constraints and transactions.

Internet Technologies (BHCS11) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Describe Internet, its architecture, services and protocol.
- ii. Implement a simple search engine.
- iii. Implement a web crawler.
- iv. Use javascript technologies to make a website highly responsive, more efficient and user Friendly.

Theory of Computation (BHCS12) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Design a finite automaton, pushdown automaton or a Turing machine for a problem at hand.
- ii. Apply pumping lemma to prove that a language is non-regular/non-context-free.
- iii. Describe limitations of a computing machine.

Artificial Intelligence (BHCS13) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Identify problems that are amenable to solution by specific AI methods
- ii. Represent knowledge in Prolog and write code for drawing inferences.
- iii. Identify appropriate AI technique for the problem at hand
- iv. Compare strengths and weaknesses of different artificial Intelligence techniques.
- v. Sensitive towards development of responsible Artificial Intelligence

Computer Graphics (BHCS14) Discipline Specific Core Course - (DSC) Credit: 06

Course Learning Outcomes:

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

- i. Describe Standard raster and vector scan devices as well as Graphical Input and output devices
- ii. Implement algorithms for drawing basic primitives such as linecircle and ellipse.
- iii. Implement algorithms for line clipping and polygon clipping and filling.
- Implement a 3D object representation scheme and carryout 2D and 3D
 Transformation, 3D projections
- v. Implement visible surface determination algorithms, Illumination models and surface rendering methods, color models
- vi. Implement a simple computer animation algorithm

Data Analysis and Visualization (BHCS15A) Discipline Specific Elective -(DSE) Credit: 06

Course Learning Outcomes:

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

- i. Use data analysis tools in the pandas library.
- ii. Load, clean, transform, merge and reshape data.
- iii. Create informative visualization and summarize data sets.
- iv. Analyze and manipulate time series data.
- v. Solve real world data analysis problems.

System Programming (BHCS15B) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Describe the working of assemblers and compilers.
- ii. Use Lex/ Yacc for building basic compiler.
- iii. Develop a two pass Assemblers.
- iv. Describe the role of the loaders, linkers and relocatable programs.

Combinatorial Optimization (BHCS15C) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Model problems using linear and integer programs
- ii. Apply polyhedral analysis to develop algorithms for optimization problems
- iii. Use the concept of duality for design of algorithms

Digital Image Processing (BHCS16A) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Describe the roles of image processing systems in a variety of applications;
- ii. Write programs to read/write and manipulate images: enhancement, segmentation, and compression, spatial filtering.
- iii. Develop Fourier transform for image processing in frequency domain.
- iv. Evaluate the methodologies for image segmentation, restoration

Microprocessors (BHCS16B) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Describe the internal architecture of Intel microprocessors
- ii. Define and implement interfaces between the microprocessor and the devices.
- iii. Write assembly language programs

Information Security (BHCS17A) Discipline Specific Course - (DSE) Credit: 06

Course Learning Outcomes:

On successful completion of this course, a student will be able to,

- i. Identify the major types of threats to information security
- ii. Describe the role of cryptography in security
- iii. Select appropriate error-detection and error-correction methods for an application
- iv. Discuss the strengths and weaknesses of private and public key crypto systems
- v. Describe malwares and memory exploits
- vi. Discuss the need for security in IoT
Data Mining (BHCS17B) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Pre-process the data, and perform cleaning and transformation.
- ii. Apply suitable classification algorithm to train the classifier and evaluate its performance.
- iii. Apply appropriate clustering algorithm to cluster data and evaluate clustering quality
- iv. Use association rule mining algorithms and generate frequent item-sets and association rules

Advanced Algorithms (BHCS17C) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Implement and empirically analyze advanced data-structures like tries, suffix trees.
- ii. Apply amortized analysis.
- iii. Develop more sophisticated algorithms using techniques like divide and conquer, dynamic programming, greedy strategy, and augmentation
- iv. Prove that certain problems are too hard to admit fast solutions.
- v. Develop algorithms using backtracking for the hard problems.

Machine Learning (BHCS18A) Discipline Specific Elective - (DSE) Credit: 06 Course Learning Outcomes:

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

i. Differentiate between supervised and unsupervised learning tasks.

- ii. Differentiate between linear and non-linear classifiers.
- iii. Describe theoretical basis of SVM
- iv. Implement various machine learning algorithms learnt in the course.

Deep Learning (BHCS18B) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Describe the feed-forward and deep networks.
- ii. Design single and multi-layer feed-forward deep networks and tune various hyper-parameters.
- iii. Implement deep neural networks to solve a problem
- iv. Analyse performance of deep networks.

Unix Network Programming (BHCS18C) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

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

- i. Describe and analyse the various Internet Transport layer protocols used in TCP/IP AND UDP.
- ii. Comprehend the concepts and structures of both TCP based connectionoriented and UDP based connection-less client server applications.
- iii. Write various real-life client-server applications using socket programming.
- iv. Modify, maintain and extend the present internet client-server applications and write any new type of internet applications to suit the current needs of Internet users.

Project Work / Dissertation (BHCS18D) Discipline Specific Elective - (DSE) Credit: 06

Course Learning Outcomes:

On successful completion of this course, a student will be able to:

- i. Develop a project plan based on informal description of the project.
- ii. Implement the project as a team.
- iii. Write a report on the project work carried out by the team and defend the work done by the team collectively.
- iv. Present the work done by the team to the evaluation committee.

Web Design and development (BHCS19A) Skill-Enhancement Elective Course -(SEC) Credit: 04

Course Learning Outcomes:

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

- i. Design and develop a website
- ii. Use Front end technologies like HTML, CSS and JavaScript
- iii. Use backend technologies like PHP and MySQL
- iv. Work on platforms like WAMP / XAMP / LAMP

Programming in Python (BHCS19B) Skill-Enhancement Elective Course -(SEC) Credit: 06

Course Learning Outcomes:

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

- i. Develop, document, and debug modular python programs to solve computational problems.
- ii. Select a suitable programming construct and data structure for a situation.
- iii. Use built-in strings, lists, sets, tuples and dictionary in applications.
- iv. Define classes and use them in applications.
- v. Use files for I/O operations.

Android Programming (BHCS20A) Skill-Enhancement Elective Course -(SEC) Credit:04

Course Learning Outcomes:

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

- i. Describe characteristics of Android operating system
- ii. Describe components of an android applications
- iii. Design user interfaces using various widgets, dialog boxes, menus
- iv. Define interaction among various activities/applications using intents, broadcasting, services
- v. Develop Android applications that require database handling

Introduction to R Programming (BHCS20B) Skill-Enhancement Elective Course - (SEC) Credit: 04

Course Learning Outcomes:

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

- i. Develop an R script and execute it
- ii. Install, load and deploy the required packages, and build new packages for sharing and reusability
- iii. Extract data from different sources using API and use it for data analysis
- iv. Visualize and summarize the data
- v. Design application with database connectivity for data analysis

BACHELOR OF MANAGEMENT STUDIES

Programme Learning Outcomes:

- 1. Provide students with a sound theoretical base and exposure to current business challenges
- Prepare students with capabilities and skills in areas of general management, marketing, finance, global business and human resource management, to take up roles in managerial position across diverse industries.
- 3. To encourage creativity and innovative thinking leading to entrepreneurial skills.
- 4. Enhance the ability of students to meet global challenges through sensitivity towards organizational, economic and cultural diversity.

MC 102: FUNDAMENTALS OF MANAGEMENT & ORGANIZATIONAL BEHAVIOUR

Course Learning Outcomes:

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

- i. Understand the nature of management and describe the functions of management.
- ii. Develop understanding of different approaches to designing organizational
- iii. structures.
- iv. Understand the role of personality, learning and emotions at work.
- v. Discover and understand the concept of motivation, leadership, power and conflict.
- vi. Understand the foundations of group behaviour and the framework for organizational change and development.

MC 103: STATISTICS FOR BUSINESS DECISIONS

Course Learning Outcomes:

After the completion of this course the students should be able to:

- i. Summarize data sets using Descriptive statistics
- ii. Analyze the relationship between two variables
- iii. Analyze trend and seasonality in a time series data
- iv. Draw conclusion about a population using testing of hypothesis
- v. Apply statistics to different managerial situations

MC 202: MANAGERIAL ECONOMICS

Course Learning Outcomes:

- i. Apply the knowledge of the mechanics of supply and demand to explain working of markets
- ii. Describe how changes in demand and supply affect markets
- iii. Understand the choices made by a rational consumer
- iv. Explain relationships between production and costs
- v. Define key characteristics and consequences of different forms of markets

MC 203: BUSINESS ACCOUNTING

Course Learning Outcomes:

- i. Understand the process of recording and classifying the business transactions and events
- ii. Understand the financial statements, viz., Profit and Loss Account, Balance Sheet, and cash flow statement of a sole proprietor.
- iii. Understand the role of IFRS/Ind-AS in accounting discipline.
- iv. Understand and Analyse the financial statements from different the perspective of different stakeholders using ratio analysis.
- v. Understanding of financial distress or bankruptcy prediction and how to analyse management quality means the concept of beyond balance sheet.

MC 301: MACROECONOMICS

- i. Understand the determination of key macroeconomic variables- outputs, prices and
- ii. rate of interest

- iii. Analyse the effect of fiscal and monetary policy
- iv. Describe the mechanics of money supply
- v. Explain the working of an open economy

MC 302: PRINCIPLES OF MARKETING

Course Learning Outcomes:

Students will be able to:

- i. Understand the concept of marketing and related concepts.
- ii. An in-depth understanding to various elements marketing mix for effective functioning of an organization.
- iii. Learn some of the tools and techniques of marketing with focus on Indian experiences, approaches and cases.

MC 303: MANAGEMENT ACCOUNTING

Course Learning Outcomes:

After successfully completing this course, students will have the knowledge and skills to

- i. Understand the basis of conventional and contemporary costing systems
- ii. Determine the costs of products and services
- iii. Critically analyse relevant costs and provide recommendations for internal decision making
- iv. Prepare budgets & analyse the variances of actual costs with respect to standards

MC 401: BUSINESS RESEARCH

Course Learning Outcomes:

Upon completion of this course students should be able to:

- i. Clearly identify and analyse business problems
- ii. Understand and apply the major types of research designs
- iii. Formulate research questionnaires
- iv. Present research reports

MC 402: HUMAN RESOURCE MANAGEMENT

Course Learning Outcomes:

The course aims to:

- i. Enhance the understanding of the role of Human Resource Management and explore the recent trends of HRM.
- ii. Introduce the basic concepts, functions and processes of human resource management
- Develop an understanding of HRM systems and their implementation through exploring the practice of Staffing, Training and Development, Performance Management and Compensation.
- iv. To build awareness of certain important issues in Industrial Relations.

MC 403: FINANCIAL MANAGEMENT

Course Learning Outcomes:

- i. Understand basic concepts of financial management and their application in investment, financing and dividend decisions.
- ii. Understand concepts of cost of capital, leverage analysis, capital structure and dividend theories and identify courses of action in financial environment that would result in maximization of wealth of an organization.
- iii. Understand management of working capital and estimate the same for an organization.

MC 501: QUANTITATIVE TECHNIQUES FOR MANAGEMENT

- i. Identify, formulate and solve Linear Programming Problems graphically, mathematically and by using excel solver.
- ii. Solve optimization problems like transportation and assignment problem mathematically and by using excel solver.
- iii. Develop critical thinking and use PERT and CPM techniques to improve decision making.

iv. Identify different types of decision-making environments and choose the appropriate decision making approaches for each.

MC 502: LEGAL ASPECTS OF BUSINESS

Course Learning Outcomes:

- i. Know rights and duties under various legal Acts.
- ii. Understand consequences of applicability of various laws on business situations.
- iii. Develop critical thinking through the use of law cases.

MC 601: BUSINESS POLICY AND STRATEGY

Course Learning Outcomes:

- i. Critically analyse the internal and external environments in which businesses operate and assess their significance for strategic planning.
- ii. Apply understanding for the theories, concepts and tools that support strategic management in organizations.
- iii. Build understanding of the nature and dynamics of strategy formulation and implementation processes at corporate and business level.
- iv. Enhanced ability to identify strategic issues and design appropriate courses of action.

MC 602: FINANCIAL INSTITUTIONS AND MARKETS

Course Learning Outcomes:

- i. Financial architecture of an economy and its key players.
- ii. The fabrication of Indian Financial markets.
- iii. Working of Capital market, debt market, money market in India
- iv. Functioning of different players in the financial market including Regulators like RBI, SEBI, PFRDA and IRDA

DISCIPLINE SPECIFIC ELECTIVE COURSE

DSE I- FINANCE

DSE I: MDF 503: STRATEGIC CORPORATE FINANCE

Course Learning Outcomes:

- i. To enable the student to identify the key themes in corporate finance
- ii. To understand the principal role of finance in an organization and the implication of overarching strategic application of its efficient use on the bottom line of the organization
- iii. To facilitate the understanding on the impact of risk and cost of capital on investment appraisal besides their cumulative impact on the value of a capital project
- iv. To enable students to employ risk and sensitivity analysis on real time basis on varied projects.
- v. To developed skills in group work, including communication, collaboration, and presentation.

DSE I: MDF 504: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

Course Learning Outcomes:

On successful completion of the course students will be able to

- i. Value financial assets such as stocks and bonds
- ii. Measure the risk and return of a stock or a portfolio position
- iii. Diversify and manage investment portfolios in accordance with a person's risk Preferences
- iv. Understand and evaluate investment advice from brokers and the financial press

DSE I: MDF 505: PROJECT APPRAISAL AND IMPLEMENTATION

Course Learning Objectives:

- i. Perform appraisal of projects with detailed feasibility analysis.
- ii. Develop the profitability projections.
- iii. Develop the strategies employed in managing risk.
- iv. Practice project management decisions and control

DSE I: MDF 506: BUSINESS ANALYSIS AND VALUATION

Course Learning Outcomes:

- i. Understand the importance and relevance of Annual Report of a Company
- ii. Able to analyse both qualitative (beyond balance sheet) and quantitative information available in the annual reports for determining the financial health of the company, Bank and NBFC's.
- iii. Understand the various methods of Equity and Firm valuations both in certain and risky conditions.
- iv. Students are able to understand the practical application of different valuation model in valuing equity and firm through modelling of these methods using excel.

DSE I: MDF 603: INTERNATIONAL FINANCE

Course Learning Outcome:

After completion of this paper:

- i. Students shall have a fair understanding of the international financial tactics including the international trade, international investment scenario and various kinds of exposures.
- ii. Students will be aware of the different kinds of foreign exchange management techniques including hedging, currency arbitrage, etc.
- iii. They will be in a position to manage multinational working capital in an efficiently and effectively.
- iv. Students will also understand & manage the risks that MNCs have to deal with.

DSE I: MDF 604: INVESTMENT BANKING AND FINANCIAL SERVICES

Course Learning Outcomes:

i. Understand the importance and relevance of Investment Bankers in any Financial System.

- ii. Understand the entire process of raising funds from primary markets along with the concerned regulations applicable in India.
- iii. Understand the various financial services available in financial markets particularly in India along with the latest innovations and technological integration in the field of Finance.

DSE I: MDF 605: FINANCIAL TIME SERIES ECONOMETRICS

Course Learning Outcomes:

The course will help the student to

- i. Understanding of financial econometric concepts and techniques
- ii. Interpretation of regression models with cross-sectional financial data
- iii. Understanding of Asset price volatility models
- iv. Understanding of simultaneous-equation models in financial time series, and economic forecasting.

DSE I: MDF 606: DERIVATIVES AND RISK MANAGEMENT

Course Learning Outcomes:

The course will help the student to:

- i. Understand derivative in detail such as forward, futures, options, Greeks, swaps etc.
- ii. Understand of option pricing models
- iii. Understand the concept of hedging, speculation and arbitrage

DISCIPLINE SPECIFIC ELECTIVE COURSE

DSE II- MARKETING

DSE II: MDM 503: CONSUMER BEHAVIOR

- i. Understanding concepts and theories of consumer behaviour.
- ii. To interpret psychological and environmental influences that are relevant for understanding consumer behaviour.

- iii. To apply important concepts and theories in developing viable marketing strategies.
- iv. Be able to develop and categorize appropriate marketing strategies for different segments of consumers

DSE II: MDM 504: PERSONAL SELLING

Course Learning Outcomes:

Students will be able to

- i. Understand the concept of personal selling and related terms.
- ii. An in-depth understanding to various stages in selling process and the catalytic role of sales person in the effective functioning of an organization.
- iii. Learn some of the tools and techniques of selling process.

DSE II: MDM 505: MARKETING OF SERVICES

Course Learning Outcomes:

At the end of this course, students would be able to:

- i. Understand the Concept of Services and intangible products
- ii. Discuss the relevance of the services Industry to Industry
- iii. Examine the characteristics of the services industry and the modus operandi
- iv. Analyse the role and relevance of Quality in Services
- v. Visualise future changes in the Services Industry

DSE II: MDM 506: INTERNATIONAL MARKETING

Course Learning Outcomes:

At the end of this course, students would be able to:

- i. Identify the key skills that a (good) business (international) manager should have.
- ii. Articulate factors that promote business and business environments.
- iii. Implement various tools and actions for a beneficial situation within a given operating (business) environment.

- Fundamentals of sustainable (profitable) business growth with focus on international expansion, operating in multiple markets, new business opportunities and market analysis.
- v. Articulate the various support systems that a business can use and access (governmental interventions and policies; operating market level advantages such as access to capital, quality and quantity of labour available; availability of land; size, purchasing power and buying behaviour of the target market; MNC level advantages; etc.)

DSE II: MDM 603: RETAIL MANAGEMENT

Course Learning Outcomes:

After studying this course, students should be able to:

- i. Clarify the concept and related terms in retailing.
- ii. Comprehend the ways retailers use marketing tools and techniques to interact with their customers.
- iii. Understand various formats of retail in the industry.
- iv. Recognize and understand the operations-oriented policies, methods, and procedures used by successful retailers in today's global economy.

DSE II: MDM 604: ADVERTISING AND BRAND MANAGEMENT

Course Learning Outcomes:

- i. To understanding the nature, role, and importance of brand management and advertising in marketing strategy
- ii. To understanding effective design and implementation of advertising strategies
- iii. To present a general understanding of content, structure, and appeal of advertisements
- iv. To understanding ethical challenges related to responsible management of advertising and brand strategy

DSE II: MDM 605: DISTRIBUTION AND SUPPLY CHAIN MANAGEMENT

Course Learning Outcomes:

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

- i. Understand the rationale behind and fundamental principles of supply chain management.
- ii. Identify the main drivers of supply chain links.
- iii. Recognize the managerial benefits and potential challenges of the supply chain practices.
- iv. Understand the necessary changes and transformations required for the successful implementation of the integrated supply chain perspectives.

DSE II: MDM 603/604: DIGITAL MARKETING

Course Learning Outcomes:

At the end of this course, students would be able to:

- i. Understand the concept of digital marketing and its real-world iterations
- ii. Articulate innovative insights of digital marketing enabling a competitive edge
- iii. Understand how to create and run digital media based campaigns
- iv. Identify and utilise various tools such as social media etc.

DISCIPLINE SPECIFIC ELECTIVE COURSE

DSE III- HUMAN RESOURCE MANAGEMENT

DSE III: MDH 503: TRAINING & MANAGEMENT DEVELOPMENT

- i. Understand the need and process of training need analysis in organizations.
- ii. Understand the process of designing a training programme and its evaluation.
- iii. Understand various training methods and their applicability in different organizational situations.
- iv. Comprehend the tools and techniques of management development.

DSE-III: MDH 504: MANAGEMENT OF INDUSTRIAL RELATIONS

Course Learning Outcomes:

- i. Acquire theoretical and practical perspective on many aspects of industrial relations.
- ii. Understand the key participants, institutions, relationships and processes in employment relations.
- iii. Understand various acts in Indian context.

DSE III: MDH 505: HRD: SYSTEMS AND STRATEGIES

Course Learning Outcomes:

The course will equip the students with:

- i. The integration of HRD with other areas of HRM and overall business strategy.
- ii. The identification and uses of competencies in the process of determining development and potential.
- iii. The main components and variations in management development systems within organisations.

DSE III: MDH 506: COUNSELLING & NEGOTIATION SKILLS FOR MANAGEMENT

Course Learning Outcomes:

After reading this paper the students should be able to:

- i. Understand complex theory and practice of negotiation in particular and conflict resolution in general.
- ii. Identify the challenges we all have in dealing with negotiation and conflict resolution.
- iii. Apply negotiation as a system and the important role of subsidiary factors.

DSE III: MDH 603: TALENT AND KNOWLEDGE MANAGEMENT

Course Learning Outcomes:

- i. Evaluate the potential and appropriateness of talent development strategies, policies and methods with reference to relevant contextual factors.
- ii. Assess the role and influence the politics of knowledge management policy and practice in a range of contexts

DSE III: MDH 604: PERFORMANCE & COMPENSATION MANAGEMENT

Course Learning Outcomes:

- i. Understand the dynamics of performance appraisal and performance management to develop criteria and standards for performance assessment.
- ii. Analyze how effective appraisal systems can be linked to managerial objectives and compensation.
- iii. Comprehend the components of executive compensation and understand how jobs are priced to establish compensation levels.
- iv. Understand incentive systems and non-economic rewards.
- v. Understand International aspects of Performance Appraisal and Compensation.

DSE III: MDH 605: ORGANIZATIONAL DEVELOPMENT

Course Learning Outcomes:

- i. Define various terms relating to organizational development & change.
- ii. Identify organizational situations that would benefit from OD interventions.
- iii. Analyze activities within an organization and recommend suitable OD interventions.
- iv. Understand the future of OD as a technique.

DSE III: MDH 606: INTERNATIONAL HUMAN RESOURCE MANAGEMENT

Course Learning Outcomes:

The course aims to equip students to:

- i. Understand the impact of culture on Human Resource Management and how HRM differs across cultures
- ii. Comprehend issues and challenges pertaining to International HRM
- iii. Understand how International HRM can develop competencies in dealing with cross cultural issues
- iv. Understand the different functional roles of HRM in various international contexts like recruitment, selection, performance management, training, compensation and repatriation.
- v. Understand the issues and trends in International Industrial relations

DISCIPLINE SPECIFIC ELECTIVE COURSE

DSE IV-Management of Global Business

DSE IV: MDG 503: INTERNATIONAL TRADE POLICY AND STRATEGY

Course Learning Outcomes:

At the end of this course, students would be able to:

- i. Understand what, why and how of international trade process in detail with special focus on India along with the latest trends in the world trade.
- ii. Analyse the trading strategies of developing countries. They will be able to analyse the impact and relation of growth with other development indicators.
- Discuss the various factors affecting International Trade and challenges in the future

DSE IV: MDG 504: TRANSNATIONAL AND CROSS CULTURAL MARKETING

Course Learning Outcomes:

At the end of this course, students would be able to:

i. Identify the key skills that a (good) business (cross-cultural) manager should have.

- ii. Understand how the business environment affects a business; articulate the various factors and how they affect a business.
- iii. Understand the various tools and actions that a business has and can undertake to find (or identify or utilize) a beneficial situation within a given operating (business) environment.
- Understand how businesses achieve growth (with focus on international expansion, operating in multiple markets, new business opportunities, market analysis etc.)
- v. Articulate the various support systems that a business can use and access (governmental interventions and policies; operating market level advantages such as access to capital, quality and quantity of labo ur available; availability of land; size, purchasing power and buying behavior of the target market; MNC level advantages; etc.)

DSE IV: MDG 505: INTERNATIONAL ACCOUNTING AND REPORTING SYSTEM

Course Learning Outcomes:

- i. Understand global accounting standards and the need for harmonization and convergence of accounting standards.
- ii. Appreciate the role of different accounting bodies in contributing to international accounting and reporting system.
- iii. Comprehend various technical aspects associated with International Financial Reporting Standards.
- iv. Compare the accounting standards and practices used globally

DSE IV: MDG 506: MULTINATIONAL BUSINESS FINANCE

- i. Students shall have a fair understanding of the MNCs operations with respect to finance.
- ii. They will also understand the functioning of Multilateral Agencies and their role in global economic development.

iii. Students will get acquaintance of the different aspects of the foreign exchange Markets.

DSE IV: MDG 603: GLOBAL BUSINESS ENVIRONMENT

Course Learning Outcomes:

- i. Understand the process of globalisation
- ii. Explain the gains from trade and various global trading agreements
- iii. Identify linkages between foreign exchange and interest rates
- iv. Define key characteristics of international institutions and agreements

DSE IV: MDG 604: INTERNATIONAL SUPPLY CHAIN MANAGEMENT

Course Learning Outcomes:

- i. Understand and analyze operations and supply chain management issues in a firm.
- ii. Analyze the global business environment.
- iii. learn the integration of business processes across organizations
- iv. Learn to create models that help businesses determine the supply chain and operations processes, adding value to the company and supporting outstanding customer service.

DSE IV: MDG 605: INTERNATIONAL JOINT VENTURES, MERGERS & ACQUISITIONS

- To facilitate the understanding of process and economic rationales of corporate restructuring tools such as Joint Ventures and Mergers & Acquisitions, particularly in International domain of operation.
- To enable the deep understanding of techniques of application of M&As and Joint Ventures.
- iii. To enable to apply the valuation techniques to M&A as well as Joint Venture assessment and decision making.

- iv. To enable the student to acquire analytical skills in analyzing real-world cases in the need for M&A as well as Joint Venture in a respective International venture.
- v. To develop skills in group work, including communication, collaboration, and presentation.

DSE IV: MDG 606: CROSS CULTURAL HUMAN RESOURCE MANAGEMENT

Course Learning Outcomes:

At the end of the course students would be able to:

- i. Understand the different meanings and dimensions of culture.
- ii. Introduce the various frameworks in international HRM.
- iii. Understand the impact of culture on HR practices.
- iv. Develop strategies for managing cultural issues in global organizations

SKILL ENHANCEMENT COURSES (SEC)

SEC: MS 305: ADVANCED SPREADSHEET TOOLS FOR BUSINESS ANALYSIS

Course Learning Outcomes:

After studying this course, you will be able to:

- i. Use advanced graphs very quickly.
- ii. Automate your spreadsheets with macros and VBA
- iii. Solve complex problems using superpower functions
- iv. Develop PivotTables and Power Pivots.
- v. Create advance spreadsheets in various Industrial areas

SEC: MS 306: SOFTWARE FOR DATA EXTRACTION AND ANALYSIS

Course Learning Outcomes:

i. After studying this course, you will be able to1. How to obtain data from financial database (Prowess IQ)

- ii. 2. How to perform data analysis using R
- iii. 3. Use of R and prowess in research.

SEC: MS 307: IT TOOLS FOR BUSINESS

Course Learning Outcomes:

- i. Use word-processor to generate documents with appropriate formatting, layout, review and referencing.
- ii. Manage data in worksheets and workbooks and analyze it using spreadsheet functions and inbuilt formulas.
- iii. Draw analysis on data using spreadsheets to make decisions.
- iv. Make meaningful representations of data in the form of charts and pivot tables.
- v. Manage data in database tables and use the same for generating queries, forms and reports.

SEC: MS 308: PERSONALITY DEVELOPMENT AND COMMUNICATION

Course Learning Outcomes:

- i. Understand the importance of oral and written communication in day-today working of the organization
- ii. Develop inter personal skills and problem-solving skills
- iii. Understand the role of body language in effective communicate

SEC: MS 405: STATISTICAL SOFTWARE PACKAGE

- i. Understand basic functions of statistical software package for managing variables and generate descriptive statistics to describe the data and analyze data through graphs and charts.
- ii. Test differences in sample means.
- iii. Identify relationships between variables and develop models for predicting dependent variables on the basis of independent variables.
- iv. Understand data structures and identify clusters in data.

v. Identify principal components that are relevant from a host of variables.

SEC: MS 406: E-Commerce

Course Learning Outcomes:

The aim of the course is to introduce students to:

- i. Fundamental principles of e-Business and e- Commerce and the role of Management,
- ii. Underlying used technologies with emphasis on Internet Technologies,
- iii. Application of tools and services to the development of small scale e-Commerce applications.

SEC: MS 407: BASIC ECONOMETRICS USING SOFTWARE

Course Learning Objective:

After studying this course, you will be able to

- i. Understanding of basic econometrics and its assumptions and impact of violations of classical assumptions
- ii. Interpretation of regression model
- iii. Interpretation of functional forms of regression model.

SEC: MS 408: BUSINESS ANALYTICS

Course Learning outcomes:

- i. Students will learn basics of Machine learning
- ii. Students will understand Python programming language.
- iii. Students will be able to apply these techniques on financial data

GENERIC ELECTIVE

GE: MG 104: FUNDAMENTALS OF MARKETING MANAGEMENT

Course Learning Outcomes:

Students will be able to

i. Understand the concept of marketing and related concepts.

ii. An understanding of various elements of marketing mix

GE: MG 105: INDIA'S DIVERSITY AND BUSINESS

Course Learning Outcomes:

- i. To develop an understanding of different types of diversity
- ii. To understand the inter linkages between diversity and socio economic challenges
- iii. To understand impact of diversity on business opportunities and decisions

GE: MG 204: BUSINESS LEGISLATION

Course Learning Outcomes:

- i. To develop awareness of legal rights and duties from the business point of view.
- ii. To explain practical aspects of implementing and adherence of various laws affecting the business.
- iii. To enhance critical thinking through the use of law cases.

GE: MG 205: ETHICS AND CORPORATE SOCIAL RESPONSIBILITY

Course Learning Outcomes:

- i. Understand the importance of ethics and CSR in the day-to-day working of organizations
- ii. Learn the issues involved in maintaining ethics and how to deal with such situations
- iii. Learn scope of business ethics in Compliance, finance, Human resources, marketing, and Production

GE: MG 304: FUNDAMENTALS OF HUMAN RESOURCE MANAGEMENT

Course Learning Outcomes:

The course aims to:

- i. Enhance the understanding of role of human resource management and explore the recent trends of human resource management
- ii. Develop an understanding of human resource management functions and practices.
- iii. Enhance awareness of certain important issues in industrial relations.

GE: MG 305: ENTREPRENEURSHIP AND NEW VENTURE CREATION

Course Learning Outcomes:

- i. Develop creative skills essential for being an entrepreneur
- ii. Perform feasibility analysis to identify potentially successful new venture.
- iii. Demonstrate effective teamwork and leadership skills
- iv. Identify funding options for setting up a new venture

GE: MG 404: PRODUCTION AND OPERATIONS MANAGEMENT

Course Learning Outcomes:

- i. Understand the role of operations management in achieving organizational competitiveness.
- ii. Appreciate the concepts of lean production and maintenance management in operations.
- iii. Comprehend key decision areas of operations and analyze data for effective decision making in operations management.

GE: MG 405: MONEY AND BANKING

- i. Explain and discuss why people hold money
- ii. Understand the working of the monetary policy
- iii. Describe the working of commercial banks
- iv. Understand the role and functioning of RBI

Bachelor of Commerce (B.Com.)

Programme Learning Outcomes:

B.Com. offers a deep dive into various facets of commerce and business. The curriculum of this programme provides a carefully selected subject combination of Accounting, Management, Tax, Finance, Marketing and Law. The programme will be able to make the students blend theoretical concepts with practice, furthering students with a better skillset and a fresh perspective. This programme will be able to give insight to the students of the day to day commercial procedures for becoming good leaders and assets for an organization.

B.Com. Semester I

Paper BC 1.2: Financial Accounting

Course Learning Outcomes:

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

- i. Build an understanding of theoretical framework of accounting and be able to prepare financial statements.
- ii. Explain and determine depreciation and inventory value
- iii. Develop understanding of accounting for hire purchase transactions and lease transactions.
- iv. Understand branch and departmental accounting.
- v. Develop the skill of preparation of trading and profit and loss account and balance sheet using computerized accounting or prepare accounts for dissolution of a partnership firm.

Paper BC 1.3: Business Organization and Management

Course Learning Outcomes:

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

i. Understand dynamics of business organisations and management practices with respect to stakeholders.

- ii. Understand varied perspectives related to business environment and entrepreneurship.
- iii. Analyze how organisations adapt to an uncertain environment and decipher decision making techniques managers use to influence and control the internal environment.
- iv. Analyze the relationship amongst functions of management i.e. planning, organizing, directing and controlling.
- v. Appreciate the change in working pattern of modern organisations.

B.Com. Semester II

Paper BC 2.2: Business Laws

Course Leaning Outcomes:

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

- i. Understand basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions.
- ii. Handle the execution of special contracts used in different types of business.
- iii. Learn legitimate rights and obligations under The Sale of Goods Act.
- iv. Acquire skills to initiate entrepreneurial ventures as LLP.
- v. Understand the fundamentals of Internet based activities under The Information and Technology Act.

Paper BC 2.3: Business Mathematics and Statistics

Course Learning Outcomes:

- i. Acquire proficiency in using different mathematical tools (matrices, calculus and mathematics of finance) in solving real life business and economic problems.
- ii. Develop an understanding of the various averages and measures of dispersion to describe statistical data.

- iii. Understand the relationship between two variables through correlation and regression.
- iv. Understand the construction and application of index numbers to real life situations.
- v. Understand the trends and tendencies over a period of time through time series analysis.

B.Com. Semester III

Paper BC 3.1: Company Law

Course Learning Outcomes:

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

- i. Understand the rules and the broader procedural aspects involved in different types of companies covering the Companies Act 2013.
- ii. Comprehend and appropriately use the basic legal documents essential for operations and management of company.
- iii. Distinguish between varied company processes, meetings and decisions.
- iv. Know the framework of dividend distribution and role of auditors in a company.
- v. Understand and evaluate working of depositories and their functions for working in stock market.

Paper BC 3.2: Income Tax Law & Practice

Course Learning Outcomes:

- i. Understand the basic concepts in the law of income tax and determine the residential status of different persons.
- ii. Identify the five heads in which income is categorised and to compute income under the heads 'Salaries' and 'Income from House Property'.
- iii. Compute income under the head 'Profits and gains of business or profession', 'Capital gains' and 'Income from other sources'.

- iv. Understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed under the Income Tax Act.
- v. Compute tax liability of individuals and firms and understand the provisions of filing return of income.

Paper BC 3.4 (a): Computer Applications in Business

Course Learning Outcomes:

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

- i. Handle document creation for communication.
- ii. Acquire skills to create and make good presentations.
- iii. Make various computations in the area of accounting and finance and present business data using appropriate charts.
- iv. Process and analyze the business data and generalize the work sheets for better understanding of the business environment and decision making.
- v. Understand and apply the various database concepts and tools in the related business areas.

Paper BC 3.4 (b): Cyber Crimes and Laws

Course Learning Outcomes:

- i. Identify cyber risk associated with online activities.
- ii. Learn safe working in the vertical having varied access points, data sources, network and system related issues, especially in online transactions.
- iii. Identify the threats attached with using different popular virtual places or platforms.
- iv. Generate and preserve electronic evidences for personal and professional use.
- v. Work in virtual space safely and with business process or products confirming to the regulatory framework and not falling under the ambit of cyber crimes.

B.Com. : Semester IV

Paper BC 4.2: Corporate Accounting

Course Learning Outcomes:

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

- i. Develop an understanding of accounting for share capital and debentures.
- ii. Prepare financial statements of a company.
- iii. Develop understanding of cash flow statements.
- iv. Understand the accounting for amalgamation of companies.
- v. Prepare consolidated balance sheet for Holding company.

Paper BC 4.3: Cost Accounting

Course Learning Outcomes:

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

- i. Understand conceptual framework of Cost Accounting.
- ii. Understand in detail the accounting and control of material and labour cost.
- iii. Understand classification, allocation, apportionment and absorption of overheads in cost determination.
- iv. Calculate the cost of products, jobs, contracts, processes and services.
- v. Have basic understanding of cost accounting book keeping systems and reconciliation of cost and financial account profits.

Paper: BC 4.4 (a): E-Commerce

Course Learning Outcomes:

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

i. Understand the basics of E-commerce, current and emerging business models.

- ii. Familiarize with basic business operations such as sales, marketing, HR etc. on the web.
- iii. Enhance the students' skills for designing and developing website.
- iv. Identify the emerging modes of e-payment.
- v. Understand the importance of security, privacy, ethical and legal issues of e-commerce.

Paper BC 4.4 (b): Investing in Stock Markets

Course Learning Outcomes:

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

- i. Understand the basics of Investing, the Investment Environment as well as Risk & Return.
- ii. Learn Indian securities market including the Derivatives Market.
- iii. Learn EIC framework and conduct Fundamental Analysis.
- iv. Understand Technical Analysis.
- v. Understand the Mutual funds market and learn to Invest in Mutual Funds.

Paper BC 4.4 (c): Personal Tax Planning

Course Learning Outcomes:

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

- i. Understand the concept of Tax Planning and relevance of residential status to plan the scope of income.
- ii. Apply critical thinking and problem solving skills to minimize tax liability.
- iii. Devise tax planning strategy in relation to income from house property and business.
- iv. Devise tax planning strategies w.r.t. capital gains and income from other sources.
- v. Understand provisions related to clubbing and certain deductions under Income Tax Act.

B.Com. : Semester V

Paper BC 5.1 (a): Human Resource Management

Course Learning Outcomes:

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

- i. Understand the concept of HRM and its role in effective business administration.
- ii. Understand the role of recruitment and selection in relation to organisation's business and HRM objectives.
- iii. Explain the importance of performance management system in enhancing employee performance.
- iv. Design compensation schemes that are cost effective, increase productivity of the workforce, and comply with the legal framework.
- v. Recognize emerging horizons of HRM and also enduring international HRM, e-HRM, HRIS.

Paper BC 5.1 (b): Principles of Marketing

Course Learning Outcomes:

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

- i. Develop understanding of basic concepts of marketing, marketing philosophies and environmental conditions effecting marketing decisions of a firm.
- ii. Understand the dynamics of consumer behaviour and process of market selection through STP stages.
- iii. Learn about marketing decisions related to product produced by a firm.
- iv. Learn about marketing decisions involving product pricing and its distribution.
- v. Learn marketing decisions involving product promotion.

Paper BC 5.1 (c): Auditing and Corporate Governance

Course Learning Outcomes:

- i. Differentiate between different aspects of auditing especially for internal check, internal control and for overall corporate governance.
- ii. Understand the concept of corporate governance in organisations and its essence for management.
- iii. Provide and assimilate information leading to failure of organisation and corporate scams.
- iv. Comprehend the governance framework for an organisation provided by different regulatory bodies in India and Abroad.
- v. Recognise the essence of ethics in business.

Paper BC 5.1 (d): Financial Reporting and Analysis

Course Learning Outcomes:

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

- i. Describe the conceptual framework of financial reporting to have an understanding of components of financial statements.
- ii. Identify major disclosures related to financial statements.
- iii. Explain techniques of analysis of financial statements.
- iv. Analyze and interpret financial statements of companies.
- Gain understanding of emerging areas in financial reporting Accounting for E-commerce business, value added statements and Integrated Reporting.

Paper BC 5.1 (e): Document Management System

Course Learning Outcomes:

- i. Appreciate the importance of effective documentation in business.
- ii. Understand traditional methods of documentation.
- iii. Understand significance and utility of modern documentation methods.
- iv. Practice business documentation with the help of real life cases.
- v. Understand complexities involved in field project work.

Paper BC 5.2 (a): Fundamentals of Financial Management

Course Learning Outcomes:

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

- i. Explain the nature, scope and objective of financial management, along with Time Value of Money, Risk & Return.
- ii. Analyze Capital Budgeting Process and Techniques including NPV, IRR and Profitability Index.
- iii. Examine various Capital structure theories and estimating cost of capital.
- iv. Critically examine basic Theories and policies of Dividend.
- v. Estimate working capital along with an overview of cash receivables and inventory management.

Paper BC 5.2 (b): Goods & Services Tax (GST) and Customs Law

Course Learning Outcomes:

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

- i. Connect with the genesis of goods and services tax (GST), decipher the constitutional amendment carried out to install GST in India and comprehend the composition and working of GST council.
- ii. Understand the meaning of supply under GST law, differentiate between intra-state and inter-state supply, comprehend rules related to the place of supply and compute the value of supply.
- iii. Comprehend the utilization of input tax credit, and the reverse charge mechanism of paying GST and to know the procedure for claiming refund under GST law.
- iv. Understand the provisions for registration under GST along with special provisions such as those related to anti-profiteering and avoidance of dual control.
- v. Know the basic concepts of Customs Act and to compute the assessable value for charging customs duty.

Paper BC 5.2 (c): Training and Development

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

- i. Link training and development to company's strategy effectively and assess training needs of the people working in the organisation.
- ii. Apply various methods of training and development in real life situations.
- iii. Design, develop, and conduct management development programmes.
- iv. Evaluate the effectiveness of training and development programmes.
- v. Leverage the emerging trends in training and development field.

Paper BC 5.2 (d): Industrial Laws

Course Learning Outcome:

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

- i. Understand the schemes for labour and their benefits enacted under the Indian Legislature.
- ii. Imbibe how to extend the benefits of different schemes of insurance available for defined set of employees.
- Acquaint with the basic framework of payment of just and fair wages and bonus to employees of factories, industrial establishments or other establishments.
- iv. Understand the legal structure provided for social welfare under the Gratuity Act 1972.
- v. Design and understand the calculation and payment of compensation under the Employees Compensation Act 1923.

Paper BC 5.3 (a): Entrepreneurship Development

Course Learning Outcomes:

- i. Understand the concept of entrepreneurship in the context of Indian economic scenario.
- ii. Link the individual's capability and strength as a guiding factor towards entrepreneurial orientation and their commitment to act as an agent of social change through entrepreneurial participation.

- iii. Understand entrepreneurial process for initiating new venture creation.
- iv. Understand social support system for garnering strength towards entrepreneurial preferences.
- v. Understand various dimensions of managing a business enterprise once it is formed.

Paper BC 5.3 (b): PersonalFinance

Course Learning Outcomes:

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

- i. Understand the meaning and relevance of financial planning, time value of money & process of financial planning.
- ii. Explain the concept of investment planning and its methods.
- iii. Examine the concept of personal tax planning.
- iv. Analyse insurance planning.
- v. Understand retirement planning.

B.Com. : Semester VI

Paper BC 6.1 (a): Corporate Tax Planning

Course Learning Outcomes:

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

- i. Differentiate between various tax planning concepts and understand the procedure of assessment of corporate assesses.
- ii. Devise strategies for tax planning in respect of a new business, understand the specific tax issues for start-ups, and comprehend the Income Tax provisions relevant for financial management decisions.
- iii. Decipher the tax factors relevant for managerial decisions.
- iv. Understand how to claim relief in case of double taxation of income.
- v. Understand tax planning with reference to business restructuring.

Paper BC 6.1 (b): Banking and Insurance
- i. Understand the meaning and scope of Banking with functions of Banks and their role into banking.
- ii. Familiarize with the operations of Banking and various services and benefits.
- iii. Get an insight of lending operations of banking and causes of NPAs into banking sector.
- iv. Acquaint with the concept of Insurance through functions and fundamental principles of Insurance.
- v. Understand the types of Insurance and Regulatory framework of Insurance.

Paper BC 6.1 (c): Management Accounting

Course Learning Outcomes:

- Understand thoroughly the conceptual framework of Management Accounting; different forms of accounting—Financial, Cost and Managerial; types of costs for decision making and cost control; cost control and cost reduction.
- ii. Understand the concept of marginal cost and marginal costing; preparation of income statements using absorption and variable costing; learning of cost-volume-profit analysis and break-even analysis using mathematical and graphical approaches; and their application in businesses.
- iii. Understand the concept of relevant cost and make decisions related to different business situations using marginal costing and differential costing techniques.
- iv. Understand preparation of various types of budgets and budgetary control system as a tool of managerial planning and control; Ability to understand standard costing system as a tool of managerial control; calculation of variances in respect of each element of cost and sales; control ratios.

v. Have basic understanding of techniques of performance measurement such as Responsibility Accounting, Divisional Performance Measurement and Transfer Pricing.

Paper BC 6.1 (d): Computerized Accounting System

Course Learning Outcome:

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

- i. Understand Computerized Accounting System environment.
- ii. Create structure of Computerized Accounting System for a business firm
- Record day to day business transactions in Computerized Accounting System.
- Make necessary tax adjustments while recording business transactions and to generate various Accounting Reports for analysis and decision making.
- v. Perform verification and audit activities for the voucher entries passed in computerized accounting environment.

Paper BC 6.1 (e): Financial Markets, Institutions and Services

Course Learning Outcomes:

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

- i. Understand the meaning and scope of Financial Markets as well as institutions in India.
- ii. Familiarize the students with the concepts of Money Market and Capital Market.
- iii. Explain Commercial Banking and its Current developments.
- iv. Familiarize the students with the concept of Non-Banking Financial Companies (NBFC's).
- v. Examine the Financial Services Industry.

Paper BC 6.2 (a): International Business

- i. Understand the process of globalization, its impact on the evolution and growth of international business and to appreciate the changing dynamics of the diverse international business environment.
- ii. Analyze the theoretical dimensions of international trade and intervention measures adopted; to appreciate the significance of different forms of regional economic integration and to understand the concept of Balance of payment account and its components.
- iii. Understand the significance of different forms of regional economic integration and to appreciate the role played by various international economic organisations such as the WTO, UNCTAD, IMF and World Bank.
- iv. Familiarize students with the international financial environment, and get them acquainted with the basic features of the foreign exchange market – its characteristics and determinants.
- v. Critically examine the concept and form of foreign direct investment, and to create awareness about emerging issues in international business such as outsourcing and ecological issues.

Paper BC 6.2 (b): Fundamentals of Investment

Course Learning Outcomes:

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

- i. Acquaint with the Investment Environment and concept of Return & Risk.
- ii. Develop the understanding of Bond valuation & role of Credit Rating agencies.
- iii. Understand the methods of Equity analysis approaches.
- Analyze two securities portfolio using Harry Markowitz model and CAPM, Mutual Funds and Financial derivatives.
- v. Examine investors' protection framework.

Paper BC 6.2 (c): Consumer Protection

Course Learning Outcomes:

- i. Understand the importance of consumer buying process and to identify the alternatives available to dissatisfied consumers.
- ii. Learn how to pursue the consumer rights under consumer protection act 1986.
- iii. Understand the procedure of filing a complaint.
- iv. Analyse the role of industry regulators in consumer protection.
- v. Comprehend the hearings, enquiry and appeal provisions.

Paper BC 6.2 (d): Organisational Behavior

Course Learning Outcomes:

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

- i. Understand the development of organisational behavior and its importance in managing people at the workplace.
- ii. Understand human behavior as an individual.
- iii. Appreciate different theories of motivation.
- iv. Critically evaluate leadership styles and strategies.
- v. Understand the importance of organisational culture and learn to deal with change and stress.

Paper BC 6.3 (a): Advertising, Personal Selling and Salesmanship

Course Learning Outcomes:

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

- i. Understand the communication objectives behind advertising and promotions.
- ii. Understand the various message and media elements in the advertising decisions.
- iii. Analyse the effectiveness of advertising.
- iv. Comprehend the importance and role of personal selling.
- v. Understand the process of personal selling.

Paper BC 6.3 (b): Collective Bargaining and Negotiation SKILLS

Course Learning Outcomes:

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

- i. Identify issues in collective bargaining, its significance.
- ii. Understand the levels, coverage and agreements of collective bargaining.
- iii. Enable to liaison in negotiations.
- iv. Differentiate between negotiations, collective bargaining and use of its approaches.
- v. Administer the negotiation agreement and handle grievance management.

Generic Elective

B.Com. : Semester V (G.E)

Paper BC 5.4 (a): Human Resource Management

Course Learning Outcomes:

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

- i. Understand different tools used in forecasting and planning human resource needs.
- ii. Demonstrate the ability to prepare strategies for acquisition of human resources.
- iii. Understand the administrative complexities of providing a full array of benefits to employees and the ways and means of delivering these benefits.
- iv. Appreciate the varied initiatives undertaken to maintain human resources.
- v. Understand modern HRM to meet challenges of changing business environment.

Paper BC 5.4 (b): Basics of Accounting

Course Learning Outcomes:

- i. Gain an understanding of theoretical framework of accounting.
- ii. Explain the concept of accounting equation and process.
- iii. Develop understanding of depreciation and inventory.
- iv. Develop the skill of preparation of trading and profit and loss account and balance sheet.
- v. State the meaning, objectives and significance of different types of ratios.

Paper BC 5.4 (c): Fundamentals of Marketing

Course Learning Outcomes:

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

- i. Familiarize with the basic concepts and principles of marketing and to develop their conceptual skills to be able to manage marketing operations of a business firm.
- ii. Discuss and make the students understand the complexities involved in various targeting and positioning decisions.
- iii. Equip the students to take effective decisions for launching new products and to understand the implications of different pricing strategies.
- iv. Develop the skills among students to enable them to design the promotion-mix strategies.
- v. Make the students aware about the current trends in marketing to enable them to take proactive measures while taking marketing decisions.

Paper BC 5.4 (d): Business Ethics and Sustainability

Course Learning Outcomes:

- i. Understand the essence of business ethics and be able to imbibe it in regular business activities.
- ii. To relate the social responsibility of business as part of strategy for long term survival of business.
- iii. Realize that how the concerns of corporate governance can be devastating for business survival.

- iv. Understand the role of business in sustainable development and corporate social responsibility.
- v. Recognize the Global Reporting Initiatives and its challenges.

B.Com. : Semester VI (G.E)

Paper BC 6.4 (a): Entrepreneurship Development

Course Learning Outcomes:

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

- i. Understand entrepreneurship as volition in context of India.
- ii. Gather knowledge and ideas on the existing support system for entrepreneurial orientation.
- iii. Understand enterprise formation process for gaining ideas as to creation of an enterprise for pursuing a career.
- iv. Understand of requirement of post-enterprise creation for effective operation of the business.
- v. Gain knowledge on available growth strategies for implementing effective suitable strategy for expansion and growth.

Paper BC 6.4 (b): Training and Development

Course Learning Outcomes:

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

- i. Understand the learning environment of a firm.
- ii. Identify the various inputs that should go into any training Programme.
- iii. Understand the role of development officers.
- iv. Understand the need and significance of evaluation of training and development programmes.
- v. Recognize the mechanism of career development programmes.

Paper BC 6.4 (c): Finance for Non- Finance Executives

- i. Understand Investment Environment and concept of Return & Risk.
- ii. Analyze Bond valuation & role of Credit Rating agencies.
- iii. Examine Equity analysis approaches.
- iv. Develop insights in to two securities portfolio using Harry Markowitz model and understand CAPM.
- v. Familiarize with Investors' protection framework.

Bachelor of Commerce (Hons.)

Programme Learning Outcomes:

B.Com. (Hons.) Programme aims to equip students with the knowledge, skills and attitude to meet the challenges of the modern-day business organizations. The curriculum of B.Com.(Hons.) degree provides a carefully selected subject combination of Accounting Economics, Finance, Management, Tax, Marketing and Law etc. The programme aims to nurture the students in intellectual, personal, interpersonal and social skills with a focus on Holistic Education and development to make informed and ethical decisions and equips graduates with the skills required to lead management position. This programme brings out reflective and scientific thinking in the students which makes them inquisitive and curious to get deep insights of the business world and tackle the complex situations with much knowledge and wisdom.

B.Com. (Hons.): Semester-I

Paper BCH 1.2: FINANCIAL ACCOUNTING

Course Learning Outcomes:

- i. Understand the theoretical framework of accounting and to prepare financial statements.
- ii. Explain and determine depreciation and value of inventory.
- iii. Learn accounting for hire purchase transactions, leases, branches and departments.
- iv. Understand the concepts of partnership firm and prepare accounts for dissolution of a partnership firm.
- v. Develop the skill of preparation of trading and profit and loss account and balance sheet using computerized accounting.

Paper BCH 1.3: BUSINESS LAWS

Course Learning Outcomes:

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

- i. Understand basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions.
- ii. Be able to recognize and differentiate the special contracts and identify their appropriate usage at varied business scenarios.
- iii. Equip the students about the legitimate rights and obligations under The Sale of Goods Act.
- iv. Enable with skills to initiate entrepreneurial ventures as LLP.
- v. Understand the fundamentals of Internet based activities under The Information and Technology Act.

B.Com. (Hons.): Semester-II

Paper BCH 2.2: CORPORATE ACCOUNTING

Course Learning Outcomes:

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

- i. Develop an understanding of accounting for share capital and debentures
- ii. Prepare financial statements of a company
- iii. Develop an understanding of cash flow statements
- iv. Understand the accounting for amalgamation and liquidation of companies
- v. Prepare consolidated balance sheet for Holding company.

Paper BCH 2.3: CORPORATE LAWS

Course Learning Outcomes:

- Understand the regulatory aspects and the broader procedural aspects involved in different types of companies covering the Companies Act 2013 and Rules there under.
- ii. Follow the basic legal documents and their usage essential for operations and management of company.
- iii. Enable the students to synthesis company processes, meetings and decisions.
- iv. Equip the students with framework of dividend distribution and role of auditors in a company.
- v. Comprehend and evaluate working of depositories and their functions in stock markets.

B.Com. (Hons.): Semester-III

Paper BCH 3.1: HUMAN RESOURCE MANAGEMENT

Course Learning Outcomes:

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

- i. Understand basic nature and importance of human resource management.
- ii. Analyze the current theory and practice of recruitment and selection.
- iii. Realize the importance of performance management system in enhancing employee performance.
- iv. Recommend actions based on results of the compensation analysis and design compensation schemes that are cost effective, that increase productivity of the workforce, and comply with the legal framework.
- v. Understand role of modern HRM in meeting challenges of changing business environment.

Paper BCH 3.2: INCOME TAX LAW AND PRACTICE

- i. Understand the basic concepts in the law of income tax and determine the residential status of different persons.
- ii. Identify the five heads in which income is categorised and compute income under the heads 'Salaries' and 'Income from House Property'.
- iii. Compute income under the head ' Profits and gains of business or profession', 'Capital gains' and 'Income from other sources'.
- iv. Understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms.
- v. Develop the ability to file online returns of income.

Paper BCH 3.3: MANAGEMENT PRINCIPLES AND APPLICATIONS

Course Learning Outcomes:

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

- i. Understand the evolution of management and apprehend its effect on future managers.
- ii. Analyze how organisations adapt to an uncertain environment and decipher decision making techniques managers use to influence and control the internal environment.
- iii. Comprehend the changes happening in organisation structure over time.
- iv. Analyse the relationship amongst functions of management i.e. planning, organizing, directing and controlling.
- v. Appreciate the changing dynamics of management practice.

Paper BCH 3.5(a): E-COMMERCE

- i. Understand the basics of E-commerce, current and emerging business models.
- ii. Familiarize with basic business operations such as sales, marketing, HR etc. on the web.
- iii. Enhance the students' skills for designing and developing website.
- iv. Identify the emerging modes of e-payment.
- v. Understand the importance of security, privacy, ethical and legal issues of e-commerce.

Paper BCH 3.5(b): TRAINING AND DEVELOPMENT

Course Learning Outcomes:

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

- i. Learn the practical applications of training and development theories in recent times.
- ii. Learn to design training programmes for diverse workforce.
- iii. Understand the role of development officers.
- iv. Evaluate training and development programmes.
- v. Recognize the mechanism of career development programmes.

Paper BCH 3.5(c): DIGITAL MARKETING

Course Learning Outcomes:

- i. Identify and assess the impact of digital technology in transforming the business environment and also the customer journey.
- ii. Understand how marketers think, conceptualize, test continuously to optimise their product search on digital platforms.

- iii. Illustrate how the effectiveness of a digital marketing campaign can be measured
- iv. Demonstrate their skills in digital marketing tools such as SEO, Social media, and Blogging for engaging the digital generation.
- v. Appreciate the need for regulatory framework for digital marketing in India.

Paper BCH 3.5(d): PERSONAL TAX PLANNING

Course Learning Outcomes:

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

- i. Understand the concept of tax planning, use the residential status to plan the scope of income and devise tax planning strategy in relation to agricultural income.
- Apply critical thinking and problem solving skills related to minimization of tax liability of individuals with respect to salary income and understand how to develop efficient pay packages
- iii. Devise tax planning strategies in relation to house property and understand the presumptive scheme of taxation of computing business income.
- iv. Use Indexation technique to reduce capital gains tax and learn about specific exemptions available from capital gains.
- v. Use deductions to reduce taxable income and use rebates to reduce tax liability.

Paper BCH 3.5(e): COMMUNICATION AND DOCUMENTATION IN BUSINESS

Course Learning Outcomes:

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

i. Realize the significance of effective communication in business.

- ii. Learn business vocabulary and understand varied ways/methods to present business plans.
- iii. Gain knowledge on drafting of official letters and documents.
- iv. Develop appropriate skills for report writing and different ways of documentation.
- v. Understand the role of information technology for enabling business communication and documentation.

Paper BCH 3.5(f): PERSONAL FINANCE AND PLANNING

Course Learning Outcomes:

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

- i. Understand the meaning and relevance of Financial Planning.
- ii. Familiarize with regard to the concept of Investment Planning and its methods.
- iii. Examine concept of Personal Tax Planning.
- iv. Analyze Insurance Planning and its relevance
- v. Develop insights in to Retirement planning and its relevance

B.Com. (Hons.): Semester-IV

Paper BCH 4.1: COST ACCOUNTING

Course Learning Outcomes:

- Understand thoroughly the conceptual framework of Cost Accounting; identification of differences between different financial and cost accounting; cost concepts and elements of cost; preparation of cost sheet.
- ii. Understand the accounting and control of material and labour cost.

- Develop ability to understand classification, allocation, apportionment and absorption of overheads in cost determination; under and over absorption of overheads; treatment of various item of overheads.
- Develop ability to calculate the cost of products, jobs, contracts, processes and services after understanding the basic concepts and processes involved in them.
- v. Understand cost accounting book keeping systems and reconciliation of cost and financial account profits.

Paper BCH 4.2: BUSINESS MATHEMATICS

Course Learning Outcomes:

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

- i. Comprehend the concept of systematic processing and interpreting the information in quantitative terms to arrive at an optimum solution to business problems.
- Develop proficiency in using different mathematical tools (matrices, calculus, linear programming, and mathematics of finance) in solving daily life problems.
- iii. Acquire competence to use computer for mathematical computations, especially with Big data.
- iv. Obtain critical thinking and problem-solving aptitude.
- v. Evaluate the role played by mathematics in the world of business and economy.

Paper BCH 4.3: COMPUTER APPLICATIONS IN BUSINESS

Course Learning Outcomes:

- i. Understand the various concepts and terminologies used in computer networks and internet and be aware of the recent developments in the fast changing digital business world.
- ii. Handle document creation for communication.
- iii. Acquire skills to create and make good presentations
- iv. Make various computations in the area of accounting and finance and represent the business data using suitable charts. S/He should be able to manipulate and analyze the business data for better understanding of the business environment and decision making
- v. Understand and apply the various database concepts and tools in the related business areas with the help of suggested popular software.

Paper BCH 4.5(a): COMPUTERISED ACCOUNTING SYSTEM

Course Learning Outcomes:

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

- i. Understand Computerized Accounting System environment
- ii. Create structure of Computerized Accounting System for a business firm
- Record day to day business transactions in Computerized Accounting System
- iv. Make necessary tax adjustments while recording business transactions and to generate various Accounting Reports for analysis and decision making
- v. Perform verification and audit activities for the voucher entries passed in computerized accounting environment.

Paper BCH 4.5(b): BUSINESS RESEARCH METHODS AND ANALYTICS

Course Learning Outcome:

- i. Understand meaning and scope of business research.
- ii. Familiarize with research terminologies and various types of research design.
- iii. Get an insight into various scaling techniques and sources of data collection.
- iv. Get acquainted with various techniques of data analysis and its implications.
- v. Have basic learning of analytics in business.

Paper BCH 4.5(c): LEADERSHIP AND TEAM DEVELOPMENT

Course Learning Outcomes:

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

- i. Gain theoretical and practical knowledge to evaluate leadership skills, styles and strategies in contemporary world so as to become a successful leader and effective employee in organisation.
- ii. Understand the group dynamics and group decision making so as to develop acumen to utilize the leadership and team building concepts, tools and techniques to handle the complex organisational problems at different levels.
- iii. Recognize the dynamics of group decision making.
- iv. Understand the working of various teams in organisations.
- v. Evaluate the role of women as leader and using various social media platforms as effective means of communication in contemporary world as a leader.

Paper BCH 4.5(d): COLLECTIVE BARGAINING AND NEGOTIATION SKILLS

Course Learning Outcomes:

- i. Identify issues in collective bargaining, its significance.
- ii. Understand the levels, coverage and agreements of collective bargaining.
- iii. Work on liaison in negotiations
- iv. Differentiate between negotiations, collective bargaining and use of its approaches.
- v. Administer the negotiation agreement and handle grievance management

Paper BCH 4.5(e): E-FILING OF RETURNS

Course Learning Outcomes:

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

- i. Know the difference between e-filing and regular filing of Income tax returns and understand the circumstances when e-filling is mandatory.
- ii. Understand the basic process of computing taxable income and tax liability, and know about various types of income tax return forms.
- iii. Understand the concept of advance payment of tax and tax deduction at source and develop the ability of e-filing of TDS returns.
- iv. Become aware of the basic framework and structure of GST, including the meaning of input tax credit and the process of its utilization.
- v. Know about various types of GST returns and their filing.

Paper BCH 4.5(f): CYBER CRIMES AND LAWS

Course Learning Outcomes:

- i. Identify cyber risk associated with online activities
- Prepare them for safe working in the vertical having varied access points, data sources, network and system related issues, especially in online transactions.

- iii. Generate and preserve electronic evidences for personal and professional use.
- iv. Work in virtual space safely and with business process or products confirming to the regulatory framework and not falling under the ambit of cyber crimes.
- v. Analyse the cases and find pertinent facts for resolutions.

B.Com. (Hons.): Semester-V

Paper BCH 5.1: PRINCIPLES OF MARKETING

Course Learning Outcomes:

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

- Develop understanding of basic concepts of marketing, marketing philosophies and environmental conditions effecting marketing decisions of a firm.
- ii. Understand the dynamics of consumer behaviour and process of market selection through STP stages.
- iii. Understand and analyze the process of value creation through marketing decisions involving product development.
- iv. Understand and analyze the process of value creation through marketing decisions involving product pricing and its distribution.
- v. Understand and analyze the process of value creation through marketing decisions involving product promotion and also to equip them with the knowledge of various developments in marketing area that may govern marketing decisions of a firm.

Paper BCH 5.2: FINANCIAL MANAGEMENT

- i. Explain the nature and scope of financial management as well as time value of money and risk return trade off
- ii. Analyze capital budgeting process and capital budgeting techniques
- iii. Estimate various capital structure theories and factors affecting capital structure decisions in a firm .
- iv. Critically examine various theories of dividend and factors affecting dividend policy
- v. Evaluate working capital requirement

Paper BCH 5.3(a): MANAGEMENT ACCOUNTING

Course Learning Outcomes:

- Understand thoroughly the conceptual framework of Management Accounting; identification of differences between different forms of accounting—Financial, Cost and Managerial; distinction between cost control and cost reduction.
- ii. Understand the concept of marginal cost and marginal costing; preparation of income statements using absorption and variable costing; learning of cost-volume-profit analysis and break-even analysis using mathematical and graphical approaches; and the application in businesses.
- iii. Understand the concept of relevant and irrelevant costs and make decisions related to different business situations using marginal costing and differential costing techniques.
- iv. Understand budgetary control system as a tool of managerial planning and control; ability to prepare various types of budget. Ability to understand standard costing system as a tool of managerial control; calculation of variances in respect of each element of cost and sales; control ratios.

v. Understand management accounting issues of Responsibility accounting, Divisional performance measurement and Transfer pricing.

Paper BCH 5.3(b): ORGANISATIONAL BEHAVIOR

Course Learning Outcomes:

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

- i. Understand the development of organisational behavior and its importance in managing people at the workplace.
- ii. Understand how individuals behave under different conditions and why individuals behave as they do.
- iii. Appreciate different theories of motivation.
- iv. Critically evaluate leadership styles and strategies.
- v. Critically evaluate the potential effects of organisation culture and stress on behaviour in organisation so as to direct the same towards predetermined goals.

Paper BCH 5.3(c): MACRO ECONOMICS

Course Learning Outcomes:

- i. Describe the nature and scope of Macro Economics, Income, Expenditure and their components and determinants.
- ii. Expose fiscal and monetary policy implications through IS-LM framework in short run and long run.
- iii. Comprehend the different theories of demand for money, supply of money approach and working of money multiplier.
- iv. Elucidate causes and effects of different types of inflation and trade-off between inflation and unemployment.

v. Describe the role of saving and investment in different size of economies on trade and exchange rate and rate of interest.

Paper BCH 5.3(d): ENTREPRENEURSHIP DEVELOPMENT

Course Learning Outcomes:

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

- i. Understand the concept of entrepreneurship in the context of Indian economic scenario.
- ii. Link the individual's capability and strength as a guiding factor towards entrepreneurial orientation.
- iii. Understand social support system for gaining strength towards entrepreneurial preferences.
- iv. Understand entrepreneurial process for initiating new venture creation.
- v. Understand various dimensions of managing a business enterprise once it is formed.

Paper BCH 5.4(a): CORPORATE TAX PLANNING

Course Learning Outcomes:

- i. Differentiate between various tax planning concepts and understand the procedure of assessment of corporate assesses.
- Devise strategies for tax planning in respect of a new business, understand the specific tax issues for start-ups, and comprehend the Income Tax provisions relevant for financial management decisions.
- iii. Decipher the tax factors relevant for managerial decisions and to understand how to develop pay packages for employees.

- iv. Recognize the relevant Tax provisions for Non-resident Indians and to understand how to claim relief in case of double taxation of income.
- v. Understand tax planning with reference to business restructuring.

Paper BCH 5.4(b): FINANCIAL MARKETS, INSTITUTIONS & SERVICES

Course Learning Outcomes:

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

- i. Understand the meaning and scope of financial markets as well as institutions in India.
- ii. Understand the concepts of Money Market and Capital Market
- iii. Explain Commercial Banking and its Current developments.
- iv. Explain concept of Non-Banking Financial Companies (NBFC's)
- v. Examine the Financial Services Industry

Paper BCH 5.4(c): ADVERTISING AND PERSONAL SELLING

Course Learning Outcomes:

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

- i. Understand the communication objectives behind advertising and promotions.
- ii. Understand the various advertising and media elements in the advertising decisions.
- iii. Identify the ethical and legal issues of advertising.
- iv. Comprehend the importance and role of personal selling.
- v. Understand the process of personal selling

Paper BCH 5.4(d): BUSINESS STATISTICS

- i. Acquire a fair degree of proficiency in comprehending statistical data, processing and analysing it using descriptive statistical tools.
- ii. Gather knowledge about various probability concepts and distributions and their business applications.
- iii. Understand the relationship between two variables using concepts of correlation and regression and its use in identifying and predicting the variables.
- iv. Develop an understanding of the index numbers and their utility in daily life and stock market.
- v. Become aware of the patterns revealed by the time series data and to use it to make predictions for the future.

B.Com. (Hons.): Semester-VI

Paper BCH 6.1: AUDITING AND CORPORATE GOVERNANCE

Course Learning Outcome:

- i. Differentiate between different aspects of auditing especially for internal check, internal control and for overall corporate governance.
- ii. Understand the concept of corporate governance in organisations and its essence for management.
- iii. Provide and assimilate information leading to failure of organisation and corporate scams.
- iv. Comprehend the governance framework for an organisation provided by different regulatory bodies in India and Abroad.
- v. Recognise the essence of ethics in business.

Paper BCH 6.2: GOODS & SERVICES TAX (GST) AND CUSTOMS LAW

Course Learning Outcomes:

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

- i. Connect with the genesis of goods and services tax (GST), decipher the constitutional amendment carried out to install GST in India and comprehend the composition and working of GST council.
- ii. Understand the meaning of supply under GST law, differentiate between intra-state and inter-state supply, comprehend rules related to the place of supply and compute the value of supply.
- iii. Comprehend the utilization of input tax credit, and the reverse charge mechanism of paying GST and to know the procedure for claiming refund under GST law.
- iv. Understand the provisions for registration under GST along with special provisions such as those related to anti-profiteering; avoidance of dual control; e-way bills and penalties.
- v. Know the basic concepts of Customs Act and to compute the assessable value for charging customs duty.

Paper BCH 6.3(a): FUNDAMENTALS OF INVESTMENT

Course Learning Outcomes:

- i. Explain investment environment and concept of return & risk.
- ii. Understand bond valuation & role of credit rating agencies.
- iii. Examine equity approaches.
- Analyze two securities portfolio using Harry Markowitz model, Calculating portfolio risk and return, explaining CAPM and evaluating Mutual Funds and Financial derivatives.
- v. Evaluate investors protection framework

Paper BCH 6.3(b): COMPENSATION MANAGEMENT

Course Learning Outcomes:

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

- i. Acquaint with basic legal framework envisaged under the statutes for compensation and welfare of employees in different modes.
- ii. Identify the internal and external environmental factors that have an impact on pay structure of an organisation.
- iii. Understand the various principles involved and premise of the grant of bonus, wages, and minimum wages to workers.
- iv. Understand international compensation rules to meet requirement of overseas workforce.
- v. Know various compensation laws to meet employee satisfaction.

Paper BCH 6.3(c): BUSINESS TAX PROCEDURE AND MANAGEMENT

Course Learning Outcomes:

- i. Know the schedule for the payment of tax in advance, understand the provisions for deduction of tax at source and compute the tax interest and fee payable to / by government.
- ii. Understand the procedure of assessment and filing of appeals.
- iii. Know penalties for offences related to income tax, provisions relating to undisclosed income, and provisions of search and seizure.
- iv. Understand the concept of GAAR and conditions for levy of Securities Transaction Tax.
- v. Know Information Technology network of Income Tax Department and learn about various Income Tax authorities and their powers.

Paper BCH 6.3(d): CONSUMER AFFAIRS & CUSTOMER CARE

Course Learning Outcomes:

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

- i. Understand the importance of consumer buying process and to identify the ethical and legal issues in advertisements and in packaging.
- ii. Learn how to pursue the consumer rights under consumer protection act 1986.
- iii. Understand the procedure of filing a complaint.
- iv. Analyse the role of industry regulators in consumer protection.
- v. Comprehend the hearings, enquiry and appeal provisions.

Paper BCH 6.4(a): FINANCIAL REPORTING AND ANALYSIS

Course Learning Outcomes:

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

- i. Describe the conceptual framework of financial reporting have an understanding the components of financial statements
- ii. Identify major disclosures to be made in the annual report by the listed companies
- iii. Explain techniques of analysis of financial statements
- iv. Analyze and interpret financial statements of companies using the case study method
- v. Gain understanding of emerging areas in financial reporting Accounting for E-commerce business, value added statements and Integrated Reporting

Paper BCH 6.4(b): BANKING & INSURANCE

- i. Understand the meaning and scope of Banking with functions of Banks and their role into banking
- ii. Familiarize with regard to operations of Banking and various services and benefits.
- iii. Develop insights on lending operations of banking and causes of NPA into banking sector.
- iv. Acquaint with the concept of Insurance through functions and fundamental principles of Insurance.
- v. Understand the types of Insurance and Regulatory framework of Insurance.

Paper BCH 6.4(c): PROJECT MANAGEMENT AND TECHNIQUES

Course Learning Outcomes:

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

- i. Explain the concept and attributes of projects, project management system, process and its principles
- ii. Perform technical feasibility, marketing feasibility and commercial viability using NPV, and further to understand tax and legal aspects of a project.
- iii. Analyse project appraisal in public & private sector and estimate shadow prices and social discount rate.
- iv. Examine project risk and performance assessment.
- v. Evaluate project management techniques using case studies.

Paper BCH 6.4(d): INTERNATIONAL BUSINESS

Course learning outcomes:

- i. Understand the process of globalization, its impact on the evolution and growth of international business and to appreciate the changing dynamics of the diverse international business environment.
- ii. Analyse the theoretical dimensions of international trade and intervention measures adopted; to appreciate the significance of different forms of regional economic integration and to understand the concept of Balance of payment account and its components.
- iii. Understand the significance of different forms of regional economic integration and to appreciate the role played by various international economic organisations such as the WTO, UNCTAD, IMF and World Bank.
- Familiarize students with the international financial environment, and get them acquainted with the basic features of the foreign exchange market – its characteristics and determinants.
- v. Critically examine the concept and form of foreign direct investment, and to create awareness about emerging issues in international business such as outsourcing and ecological issues.

Paper BCH 6.4(e): INDUSTRIAL RELATIONS AND LABOUR LAWS

Course Learning Outcomes:

- i. Understand evolution of industrial relations and its significance in managerial world.
- ii. Imbibe how to interact, negotiate and transact with trade unions.
- iii. Acquaint with the basic framework of collective bargaining and workers' participation.
- iv. Design and understand the discipline measures and address grievance mechanisms.

v. Understand the legal structure provided for grievance handling under the Industrial Disputes Act 1947.

B.Com. (Hons.): Semester-I

Paper BCH 1.4(a): BASICS OF ACCOUNTING

Course Learning Outcomes:

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

- i. Gain an understanding of theoretical framework of accounting
- ii. Explain the concept of accounting equation and accounting process
- iii. Develop understanding of depreciation and inventory
- iv. Understand financial statements of a company
- v. State the meaning, objectives and significance of different types of ratios.

Paper BCH 1.4(b): BUSINESS ORGANISATION AND MANAGEMENT

Course Learning Outcomes:

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

- i. Learn business activities to compete in competitive world.
- ii. Understand entrepreneurship from local to international perspective.
- iii. Evaluate the application of functional areas of business activity.
- iv. Analyze decision making and communication.
- v. Evaluate the impact of legal, social, and economic environment on business.

B.Com. (Hons.): Semester-II

Paper BCH 2.4(a): ENTREPRENEURSHIP

Course Learning Outcomes:

- i. Understand entrepreneurship as volition in context of India.
- ii. Gather knowledge and ideas on the existing support system for entrepreneurial orientation.
- iii. Understand enterprise formation process for gaining ideas as to creation of an enterprise for pursuing a career.
- iv. Understand requirements of post-enterprise creation for effective operation of the business.
- v. Gain knowledge on available growth strategies for implementing effective suitable strategy for expansion and growth.

Paper BCH 2.4(b): FINANCE FOR NON-FINANCE EXECUTIVES

Course Learning Outcomes:

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

- i. Understand the overview of finance, concept of time value of money as well as concept of risk & return
- ii. Learn financial analysis with the aid of various financial statements & analyze capital budgeting process and techniques.
- iii. Analyze cost of capital, capital structure and leverage
- iv. Examine dividend & working capital dividend decisions
- v. Perform valuation of securities

B.Com. (Hons.): Semester-III

Paper BCH 3.4(a): INVESTING IN STOCK MARKETS

Course Learning Outcomes:

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

i. Learn the basics of investing in stock market, the investment environment as well as risk & return

- ii. Analyze indian securities market including the derivatives market
- iii. Examine EIC framework and conduct fundamental analysis
- iv. Perform technical analysis
- v. Invest in mutual funds market

Paper BCH 3.4(b): HUMAN RESOURCE MANAGEMENT

Course Learning Outcomes:

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

- i. Understand different tools used in forecasting and planning human resource needs.
- ii. Demonstrate the ability to prepare a selection strategy for a specific job.
- iii. Understand the significance of different methods of performance appraisal.
- iv. Recommend actions based on results of the compensation analysis and design compensation schemes that are cost effective, that increase productivity of the work force, and comply with the legal framework.
- v. Understand modern HRM to meet the challenges of changing business environment.

Paper BCH 3.4(c): FUNDAMENTALS OF MARKETING

Course Learning Outcomes:

- Learn the basic concepts and principles of marketing and to develop their conceptual skill to be able to manage marketing operations of a business firm.
- ii. Understand the complexities involved in various targeting and positioning decisions.

- iii. Take effective decisions for launching new products and to understand the implications of different pricing strategies.
- iv. Develop the skills to design the promotion-mix strategies
- v. Familiarize about the current trends in marketing to take proactive measures while taking marketing decisions

B.Com. (Hons.): Semester-IV

Paper BCH 4.4(a): INSURANCE & RISK MANAGEMENT

Course Learning Outcomes:

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

- i. Understand the Concept of Risk, it's types, sources and measurements.
- ii. Learn the Concepts and Principles of Insurance and its operations.
- iii. Develop insights into various types of Insurance
- iv. Examine the Legal aspects of Insurance contract and Actuaries
- v. Familiarize with the Regulatory Framework of Insurance

Paper BCH 4.4(b): PROJECT MANAGEMENT & TECHNIQUES

Course Learning Outcomes:

- i. Familiarize with the concept of project management and its attributes
- ii. Understand project planning and project analysis
- iii. Perform project appraisal.
- iv. Examine project risk and conduct performance assessment and quality management of the project
- v. Learn cases in project management.

B.A. (Programme) Philosophy

Ethical Studies (MIL-II) Core Course - (CC) Credit:6

Course Learning Outcomes:

- i. Awareness of ethical issues and basic ethical approaches.
- ii. Improved writing skills and understanding of ethical conflict.

Ethics (DSC 2) (CC (II)) Core Course - (CC) Credit:6

Course Learning Outcomes:

This curriculum should enable students to develop ability for moral reasoning and act with ethical deliberations. After studying ethics one is equipped with the ethical sensitivity and moral understanding required to solve complex ethical dilemmas.

Indian Philosophy (DSC 3) (CC (III)) Core Course - (CC) Credit:6

- i. At a macro level, the Indian contribution to global philosophy is still not recognised in the same manner as Western Philosophy. To give one example, while we essentially teach Western Philosophy in our university curriculum, Indian Philosophy is still not popular in West or elsewhere and is not a 'compulsory' element of course curriculum. Part of the reason is that we have not brought out the contribution of Indian Philosophy properly. Therefore, the learning outcomes from this course must be dovetailed to highlight the positive contribution of this paper and in what way some of the thought processes are better than its Western counterpart.
- ii. It should also be the endeavour to promote the Indian way of life encapsulating Indian values, ethos and cultural context. As future citizens, students should go out of the university fully aware of Indian philosophical

tradition and should be indeed part of it. Unless they feel part and parcel of this thought processes, they would not be able to contribute any value addition to their job profile.

Introduction to Indian Philosophy (MIL) (MIL-III) Core Course - (CC) Credit:6

Course Learning Outcomes:

- i. Students will appreciate the Indian Metaphysics of various ancient Indian schools such as Charvaka, Buddhism, Jainaism, Samkhya ,Mimamha and Vedanta. They will become aware of the Metaphysics of various schools which will help them to understand the society at large.
- ii. In the unit II, students will gain familiarity with the epistemology of Charvaka and Nyaya -Vaishesika system. Unit II and Unit III are interrelated in the sense that epistemology of a particular school can be understood through its metaphysics and vice-versa.
- iii. In Unit IV Students will learn to develop scientific, logical and rational inquiry for understanding the systems. Students will able to do a comparative analysis of all systems which will further enhance their debating skills. Students will develop the ability to think critically and to read and analyze scientific literature.
- iv. Students will develop strong oral and written communication skills through the effective presentation of Projects, Quiz as well as through Seminars.

Introduction to Logic (MIL) (MIL-I) Core Course - (CC) Credit:6

Course Learning Outcomes:

Learning outcomes of this course are as follows:

- i. To learn identifying different types of arguments as well as their premises and conclusions.
- ii. To be able to evaluate arguments and identify mistakes in reasoning.
- iii. To learn how to prove the validity and invalidity of arguments using method of Rules and Fallacies and also by Truth Table method.
- iv. To develop the overall reasoning skills of the students which are useful in various competitive exams.

Introduction to Western Philosophy (MIL) (MIL-IV) Core Course - (CC) Credit:6

Course Learning Outcomes:

This paper seeks to do three things:

- it will make students witness how philosophers who were either predecessors or contemporaries evaluated the theories of others, thus will advise them in distinguishing good arguments from bad arguments.
- ii. it will enable students to have a better understanding of how a man thinks and what goes on into the making of human thought.
- iii. It will also make students aware that there is no place for superficial approach to the complex questions in life.

Logic (DSC 1) (CC (I)) Core Course - (CC) Credit:6

Course Learning Outcomes:

This course

- i. Helps in sharpening the reasoning and argumentation skill of a learner and simultaneously helps in identifying the flaws.
- ii. Enhances the analytical skills, so that one can resolve the difficult issues and finally arrives at a reasonable solution.
- iii. Helps in good scoring for a better rank in form of result

Modern Western Philosophy (DSC 4) (CC (IV)) Core Course - (CC) Credit:6

- i. This course will enable students to think outside the box of the prevalent philosophical orthodoxies.
- ii. The history of philosophy trains the mind to think differently and alternatively about the fundamental problems of philosophy.

Aesthetics (DSE (IX)) Discipline Specific Elective - (DSE) Credit:6

Course Learning Outcomes:

The course with its inter-disciplinary content, and with the curriculum that offers an insight into art and culture, will ensure students with a foundational basis to find a career in the fields of art and media.

Analytic Philosophy (DSE (X)) Discipline Specific Elective - (DSE) Credit:6 Course Learning Outcomes:

The method and methodology of Analytic Philosophy allows it to register a presence in diverse domains of thought including epistemology, phenomenology, metaphysics, ethics, political philosophy and feminist discourse. The course, "Issues in Analytic Philosophy" seeks to help students understand its terminology and method via its workings in certain interconnected sub traditions such as metaphysics and epistemology, philosophy of mind and philosophy of language.

Applied Ethics (DSE (V)) Discipline Specific Elective - (DSE) Credit:6

Course Learning Outcomes:

- i. The course shall give a vision that merges the social with ethical understanding of choices.
- ii. The issues in human lives that touch each one of us must be synergised for all and this course makes that outcome a good possibility.

Buddhism (DSE (II)) Discipline Specific Elective - (DSE) Credit:6

- i. At the end of the course, a student should be able to demonstrate a clear understanding of the background to the origin of Buddhism in India.
- ii. Have acquired a good understanding of the key doctrines of Buddhism.
- iii. Have the sound understanding of Buddhist epistemology, metaphysics, ethics and shall be able to go for further studies in the subject.

Feminism (DSE (VIII)) Discipline Specific Elective - (DSE) Credit:6

Course Learning Outcomes:

Study of Feminism arms the student with analytical skills to develop valid arguments to counter gender discrimination, sexism and patriarchal dominance. Feminist theory has a social agenda i.e. to initiate transformation in social structures, customs and practices. Thus the study of Feminism is not only an empowering tool against gender oppression but also against other systems of oppression such as race, class and colour

Greek Philosophy (DSE (III)) Discipline Specific Elective - (DSE) Credit:6

Course Learning Outcomes:

This course will provide students with a seminal awareness of the Western Classical Philosophical tradition, and give them clarity on classics.

Jainism (DSE (VI)) Discipline Specific Elective - (DSE) Credit:6

- i. At the end of the course, a student should be able to demonstrate a clear understanding of the background to the historical relevance of Jain philosophy.
- ii. have acquired a good understanding of the key doctrines/concepts of Jain tradition.
- iii. have the sound understanding of Jain epistemology, metaphysics, ethics, its practical relevance in todays' contemporary scenario and shall be able to go for further studies in the subject.

Philosophy of Religion (DSE (VII)) Discipline Specific Elective - (DSE) Credit:6

Course Learning Outcomes:

Philosophy of religion develops a critical approach in the students whereby they are able to form an informed opinion regarding various issues concerning religion.

Social and Political Philosophy: Indian & Western (DSE (IV)) Discipline Specific Elective - (DSE) Credit:6

Course Learning Outcomes:

- i. To make students a better citizen by understanding the notion of democracy.
- ii. To know rights of Individuals and communities.
- iii. To learn to live in cohesive manner in a multicultural setup.

Vedic Value System (DSE (I)) Discipline Specific Elective - (DSE) Credit:6

Course Learning Outcomes:

The student must fully understand the reverence of the Vedic Values in the contemporary world. This course will help develop an understanding about the importance of the Nature (Cosmos) and help student pursuit a holistic existence.

Art and Film Appreciation (SEC (III)) Skill-Enhancement Elective Course - (SEC) Credit:4

Course Learning Outcomes:

It is a skill to develop and enhance philosophical analysis and contextualizing in terms of Rasa, empathy and disinterestedness.

Critical Thinking and Decision Making (SEC (IV)) Skill-Enhancement Elective Course - (SEC) Credit:4

This course:

- i. Helps in generating productive/creative ideas for further use in difficult situation.
- ii. Creates enthusiasm for taking a risk of dealing with difficult issues and finding a way out for solution
- iii. Provides valuable intellectual traits like how to critically read, listen and write and develop faith in reason and encourage a flair for fairness and justice. As a result a learner learns step by step how to arrive at an ideal solution keeping in mind all situational factors.
- iv. Provides clarity in thinking as well as proper understanding of an issue to make it precise for further analysis.
- v. Helps to use the skills of observation, analysis and evaluation and also provides sound reason for doubting and questioning.
- vi. Finally the learner becomes self-directed, self-monitored and selfcorrective through this process of reflective thinking, and can proceed for right choice.

Ethical Decision Making (SEC (I)) Skill-Enhancement Elective Course -(SEC) Credit:4

Course Learning Outcomes:

This course would enable developing an ability to use theories of standard Ethics and reflective morality to resolve the real life issues and concerns. In other words, this course would facilitate a skill in addressing issues that ensue moral dilemmas or the 'trolley problems".

Yoga Philosophy (SEC (II)) Skill-Enhancement Elective Course - (SEC) Credit:4

Course Learning Outcomes:

i. At a macro level, the Indian contribution to global philosophy is still not recognised in the same manner as Western Philosophy. To give one

example, while we essentially teach Western Philosophy in our university curriculum, Indian Philosophy is still not popular in West or elsewhere and is not a 'compulsory' element of course curriculum. Part of the reason is that we have not brought out the contribution of Indian Philosophy properly. Therefore, the learning outcomes from this course must be dovetailed to highlight the positive contribution of this paper and in what way some of the thought processes are better than its Western counterpart.

ii. It should also be the endeavour to promote the Indian way of life encapsulating Indian values, ethos and cultural context. As future citizens, students should go out of the university fully aware of Indian philosophical tradition and should be indeed part of it. Unless they feel part and parcel of this thought processes, they would not be able to contribute any value addition to their job profile.

Ethics (GE 2B) (GE (II B)) Generic Elective - (GE) Credit:6

Course Learning Outcomes:

This curriculum should enable students to develop ability for moral reasoning and act with ethical deliberations. After studying ethics one is equipped with the ethical sensitivity and moral understanding required to solve complex ethical dilemmas.

Fundamental of Indian Philosophy (GE (I)) Generic Elective - (GE) Credit:6

Course Learning Outcomes:

i. Students will appreciate the Indian Metaphysics of various ancient Indian schools such as Charvaka, Buddhism, Jainaism, Samkhya ,Mimamha and Vedanta. They will become aware of the Metaphysics of various schools which will help them to understand the society at large. In unit II, students will gain familiarity with the epistemology of Charvaka and Nyaya -Vaishesika system. Unit II and Unit III are interrelated in the sense that epistemology of a particular school can be understood through its metaphysics and vice-versa.

ii. In Unit IV Students will learn to develop scientific, logical and rational inquiry for understanding the systems. Students will able to do a comparative analysis of all systems which will further enhance their debating skills. Students will develop the ability to think critically and to read and analyze scientific literature.

Inductive Logic (GE (IV A)) Generic Elective - (GE) Credit:6

Course Learning Outcomes:

- i. This paper provides a sketch for evaluation on the basis of observation and experiment.
- ii. It helps the student learn how to move forward or how to arrive at general conclusions on the basis of individual data.
- iii. It provides a well formulated background for Scientific studies

Logic (GE 4B) (GE (IV B)) Generic Elective - (GE) Credit:6

Course Learning Outcomes:

This course:

- i. Helps in sharpening the reasoning and argumentation skill of a learner and
- ii. simultaneously helps in identifying the flaws.
- iii. Enhances the analytical skills, so that one can resolve the difficult issues and finally arrives at a reasonable solution.
- iv. Helps in good scoring for a better rank.

Philosophical thoughts of Ambedkar (GE (III)) Generic Elective - (GE) Credit:6

- i. Learn Ambedkar's alternative reading of Indian philosophy by interrogating dominant philosophical systems and its texts.
- ii. Critical engagement with social reality conditioned by the caste system

- iii. Learn the liberative and democratic potential of philosophy of Ambedkar in reconstructing Indian nation.
- iv. To make good citizen by understudying the indigenous democratic philosophical thought.

Technology and Ethics (GE (II A)) Generic Elective - (GE) Credit:6

Course Learning Outcomes:

Students' enhanced ability to analyse the impact of technology on social, political, economic and legal issues from an ethical point of view. They will responsibly function and lead the usage to technology so as to save society from its harmful effects. With an increased ethical sensitivity and an improved ethical judgment capacity, they will be expected to advocate for the best practices of technology with its ethical implications.

B.A Programme-Commerce Entrepreneurship and Small Business

Paper 1: SEMESTER -I Fundamentals of Business Organisation

Course Learning Outcomes:

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

- i. Understand the relationship between business and the environment.
- ii. Analyze the environmental factors affecting business with special reference to SWOT analysis.
- iii. Learn about various forms of business organisations.
- iv. Explore the principles of business management.
- v. Appreciate the functions of management.

Paper 2: SEMESTER –II

Fundamentals of Entrepreneurship

Course Learning Outcomes:

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

- i. Understand entrepreneurship and its process.
- ii. Gain knowledge on the existing socio-economic support system for promotion of entrepreneurship.
- iii. Link the individual's capability and strength as a guiding force towards entrepreneurial orientation and their commitment to act as an agent of social change through entrepreneurial participation.
- iv. Motivate himself towards entrepreneurial desire leading to selection of entrepreneurship as a career.
- v. Understand entrepreneurial process for initiating new venture creation.

Paper 3: SEMESTER -III Feasibility Study and Business Plan

Course Learning Outcomes:

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

- i. Understand how a business idea is generated by analyzing all the interplaying factors.
- ii. Gain know-how of conducting a feasibility study.

- iii. Explore entrepreneurial opportunities in contemporary business environment.
- iv. Learn the concept and implementation of a business plan.
- v. Learn the significance of Business Planning

Paper 4: SEMESTER -IV

Managerial Aspects of Small Business: Operations, Office, Accounting and Functional

Course Learning Outcomes:

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

- i. Explore the managerial roles and operations in small businesses.
- ii. Understand theoretical and practical aspect of funds flow statement, cash flow statement and integrated ratio analysis.
- iii. Gain basic awareness of manual and computerized office systems and procedures.
- iv. Understand the applicability of management of cash, receivables and inventory in real life.
- v. Understand the concept and application of product life cycle and learn about entrepreneurial self-renewal and succession planning and its utility in business operations.

Discipline Specific Elective Paper 5(a): SEMESTER -V Management of Small Business Enterprises

Course Learning Outcomes:

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

- i. Understand entrepreneurial style of management
- ii. Analyze the significance of having appropriate capital structure mix in the organisation
- iii. Construct an influential marketing plan
- iv. Realize the significance of having right mix of employees in the organisation
- v. Understand the process of planning for management succession.

Discipline Specific Elective Paper 5(b): SEMESTER –V Evolution of Policy & Institutional Framework

Course Learning Outcomes:

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

i. Gain knowledge on the evolution of government policy towards small enterprise sector.

- ii. Understand various policies with reference to small enterprises
- iii. Understand available institutional support system for promotion of small scale sector
- iv. Understand the Policy framework for entrepreneurship and small business
- v. Review the Non-Governmental Initiative in Entrepreneurial Promotion

Discipline Specific Elective Paper 6(a): SEMESTER -VI Social Entrepreneurship

Course Learning Outcomes:

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

- i. Have enhanced knowledge horizon in the sphere of social issues having propensity for business opportunities.
- ii. Identify new non-traditional business format that helps in attainment of sustainable business development.
- iii. Understand the efforts of both governmental and non-governmental organisation towards promotion of social entrepreneurs.
- iv. Understand cases of social entrepreneurship so as to have an insight in to the societal roles in the promotion of social entrepreneurship.
- v. Review the success and failure stories on entrepreneurship.

Discipline Specific Elective Paper 6(b): SEMESTER -VI Contemporary Policy & Institutional Framework

Course Learning Outcomes:

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

- i. Know about legal framework governing MSMEs.
- ii. Gain knowledge about government support system for entrepreneurial options.
- iii. Be well-versed with the changing face of MSME in the light of liberalized economic policy.
- iv. Understand the working of promotional programmes for SMEs.
- v. Gain knowledge of marketing and financial support system.

ACCOUNTING & FINANCE

Paper 1: SEMESTER –I Financial Accounting

Course Learning Outcomes:

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

- i. Understand of theoretical framework of financial accounting
- ii. Prepare simple financial statements
- iii. Explain and determine depreciation and inventory value
- iv. Develop understanding of accounting for hire purchase transactions and dependent Inland branches CO5: prepare accounts for dissolution of a partnership firm or develop the skill of preparation of trading and profit and loss account and balance sheet using computerized accounting

Paper 2: SEMESTER –II Corporate Accounting

Course Learning Outcomes:

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

- i. Develop an understanding of accounting for share capital and debentures
- ii. Prepare financial statements of a company
- iii. Understand the accounting for amalgamation of companies
- iv. Prepare consolidated balance sheet for Holding company
- v. Analyze financial statements by using accounting ratios

Paper 3: SEMESTER –III Financial Management

Course Learning Outcomes:

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

- i. Understand the financial environment within which organisations must operate
- ii. Analyze the finances of individual corporations both in terms of their performance and capital budgeting
- iii. Understand the importance of cost of capital within the context of financial decision making
- iv. Access financial information from a wide variety of sources and use this information
- v. Estimate working capital requirement in a firm along with understanding of cash management.

Paper 4: SEMESTER –IV Financial Markets, Institutions and Financial Services

Course Learning Outcomes:

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

- i. Understand the meaning and scope of Financial Markets institutions in India and the concept of Liberalization.
- ii. Learn the concepts of Money Market and Capital Market regulation
- iii. Acquaint with the Structure of Banks and the concept of Non-Banking Finance (NBFC's)
- iv. Examine the financial services industry in India
- v. Develop insights in to Investment Banking and other forms of banking

Discipline Specific Elective Paper 5(a): SEMESTER -V Cost Accounting

Course Learning Outcomes:

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

- i. Understand the conceptual framework of Cost Accounting, cost concept & classification, elements of cost and preparation of cost sheet.
- ii. Understand of accounting and control of material and labour cost.
- iii. Understand classification, allocation, apportionment and absorption of overheads in cost determination; under and over absorption of overheads.
- iv. Calculate the cost of products, jobs, contracts, processes and services after understanding the basic concepts and processes involved in them.
- v. Understand the concept of marginal cost and marginal costing, learning of costvolume-profit analysis and break-even analysis; identification of key factor and determination of profitability.

Discipline Specific Elective Paper 5(b): SEMESTER -V Personal Finance and Basics of Investment

Course Learning Outcomes:

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

- i. Analyze personal financial planning process & set personal financial goals
- ii. Learn investment planning, risk aversion, risk profiling & concepts of compounding and discounting.
- iii. Understand to invest in bonds & equity shares
- iv. Perform portfolio analysis & learn portfolio risk, return & diversification
- v. Know about investor protection

Discipline Specific Elective Paper 6(a): SEMESTER -VI Investment Analysis and Business Valuation

Course Learning Outcomes:

- i. Understand the Basics, Concepts & Calculation of Risk & Return, Types of Risks & Market.
- ii. Learn to perform Fundamental Analysis.
- iii. Learn to perform Technical Analysis and Understand the Efficient Market Hypothesis.
- iv. Learn the Basics of Equity & Bond Valuation & Portfolio.
- v. Learn Approaches to valuation, Discounted Cash Flow, Relative Valuation, Role of valuation.

Discipline Specific Elective Paper 6(b): SEMESTER -VI Computer Application in Accounting and Finance

Course Learning Outcomes:

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

- i. Understand and manage the basic functioning of computer system and network system.
- ii. Carry out the task of creating and maintaining documents using MS word
- iii. Carry out basic mathematical operations using spreadsheets
- iv. Becoming familiar with the Computerized Accounting system
- v. Maintain accounts using computer system through hands on training.

DEPARTMENT OF MATHEMATICS B.A. (Programme)

Programme Learning Outcomes:

A student opting for mathematics along with other humanity disciplines is able to:

- Solve problems using a broad range of significant mathematical techniques, including calculus, algebra, geometry, analysis, numerical methods, differential equations, probability and statistics along with hands-onlearning through CAS and LaTeX.
- Construct, modify and analyze mathematical models of systems encountered in disciplines such as economics, psychology, political sciences and sociology, assess the models' accuracy and usefulness, and draw contextual conclusions from them.
- 3. Use mathematical, computational and statistical tools to detect patterns and model performance.
- 4. Choose appropriate statistical methods and apply them in various data analysis problems.
- 5. Use statistical software to perform data analysis.
- 6. Have fundamental research design and mathematical/statistical skills needed to understand the acquired discipline specific knowledge.

Paper I: Calculus

Course Learning Outcomes:

The students who take this course will be able to:

- i. Understand continuity and differentiability in terms of limits.
- ii. Describe asymptotic behavior in terms of limits involving infinity.
- iii. Use derivatives to explore the behavior of a given function, locating and classifying its extrema, and graphing the function.

- iv. Understand the importance of mean value theorems.
- v. Learn about Maclaurin's series expansion of elementary functions.

Paper II: Algebra

Course Learning Outcomes:

The course will enable the students to understand:

- i. Solving higher order algebraic equations.
- ii. Become aware of De Moivre's theorem and its applications.
- iii. Solving simultaneous linear equations with at most four unknowns.
- iv. Get an overview of abstract algebra by learning about algebraic structures namely, groups, rings and vector spaces.

Paper III: Analytic Geometry and Applied Algebra

Course Learning Outcomes:

The course will enable the students to:

- i. Learn concepts in two-dimensional geometry.
- ii. Identify and sketch conics namely, ellipse, parabola and hyperbola.
- Learn about three-dimensional objects such as spheres, conicoids, straight lines and planes using vectors.
- iv. Understand various applications of algebra in design of experiments, modelling of matching jobs, checking spellings, network reliability and scheduling of meetings.

SEC-1: Computer Algebra Systems

Course Learning Outcomes:

This course will enable the students to:

- i. Use CAS as a calculator and for plotting functions.
- ii. Understand the role of CAS finding roots of polynomials and solving general equations.

- iii. Employ CAS for computing limits, derivatives, and computing definite and indefinite integrals.
- iv. Use CAS to understand matrix operations and to find eigenvalues of matrices.

Paper IV: Analysis

Course Learning Outcomes:

The course will enable the students to:

- i. Understand basic properties of the field of real numbers.
- ii. Examine continuity and uniform continuity of functions using sequential criterion.
- iii. Test convergence of sequence and series of real numbers.
- iv. Distinguish between the notion of integral as anti-derivative and Riemann integral.

SEC-2: Mathematical Typesetting System: LaTeX

Course Learning Outcomes:

This course will enable the students to:

- i. Create and typeset a LaTeX document.
- ii. Typeset a mathematical document using LaTex.
- iii. Learn about pictures and graphics in LaTex.
- iv. Create beamer presentations.

SEC-3: Transportation and Network Flow Problems

Course Learning Outcomes:

This course will enable the students to:

- i. Formulate and solve transportation problems.
- ii. Learn to solve assignment problems using Hungarian method
- iii. . iii) Solve travelling salesman problem.

- iv. Learn about network models and various network flow problems.
- v. Learn about project planning techniques namely, CPM and PERT

DSE-1 (i): Statistics

Course Learning Outcomes:

The course will enable the students to:

- i. Determine moments and distribution function using moment generating functions.
- ii. Learn about various discrete and continuous probability distributions.
- iii. Know about correlation and regression for two variables, weak law of large numbers and central limit theorem.
- iv. Test validity of hypothesis, using Chi-square, F and t-tests, respectively in sampling distributions.

DSE-1 (ii): Discrete Mathematics

Course Learning Outcomes:

The course will enable the students to understand:

- i. Learn about partial ordering of sets and various types of lattices.
- ii. Learn about Boolean algebra and switching circuits with Karnaugh maps.
- iii. Know about basics of graph theory and four color map problem.

SEC-4: Statistical Software: R

Course Learning Outcomes:

This course will enable the students to:

- i. Be familiar with R syntax and use R as a calculator.
- ii. Understand the concepts of objects, vectors and data types.
- iii. Know about summary commands and summary table in R.
- iv. Visualize distribution of data in R and learn about normality test.
- v. Plot various graphs and charts using R.

DSE-2 (i): Numerical Methods

Course Learning Outcomes:

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

- i. Find the consequences of finite precision and the inherent limits of numerical methods.
- ii. Appropriate numerical methods to solve algebraic and transcendental equations.
- iii. Solve first order initial value problems of ordinary differential equations numerically using Euler methods.

DSE-2 (ii): Differential Equations

Course learning outcomes:

The course will enable the students to:

- i. Solve ODE's and know about Wronskian and its properties.
- ii. Method of variation of parameters and total differential equations.
- iii. Solve linear PDE's of first order.
- iv. Understand Lagrange's and Charpit's methods for solving nonlinear PDE's of first order.

Bachelor of Arts (Programme) Economics Courses

Discipline Core Courses

Principles of Microeconomics I (PD11)

Course Learning Outcomes:

The students learn some basic principles of microeconomics and interactions of supply and demand, characteristics of perfect competition, efficiency and welfare.

Principles of Microeconomics II (PD21)

Course Learning Outcomes:

This course helps the students to understand different forms of market imperfections and market failures observed in real life situations. The students learn about the environment where the standard market mechanism fails to generate the desirable outcomes. They develop a sense of how the production is distributed among the different factors of production and the demand for inputs. Some preliminary concepts of international trade are also covered in this course.

Principles of Macroeconomics I (PD31)

Course Learning Outcomes:

This course is useful for understanding various real economic issues and evaluating policy outcomes.

Principles of Macroeconomics II (PD41)

Course Learning Outcomes:

This course provides students with an analytical framework to understand the basic functioning of the macroeconomy. It also allows them to critically examine and comment on effectiveness of various policies.

Discipline Elective Courses

Environmental Economics (PDE51)

Course Learning Outcomes:

The module aims to introduce students to the main concepts in environmental economics, equip students with a thorough analytical grasp of environmental policy theory, starting with externalities, and familiarise students with the main issues in environmental valuation. At the end of the module the students should be able to demonstrate their understanding of the economic concepts of environmental policy, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various environmental policy options, and demonstrate their understanding of the usefulness and problems related to environmental valuation.

Money and Banking (PDE52)

Course Learning Outcomes:

It allows students to analyse financial market outcomes and evaluate policies.

Economic Development & Policy in India I (PDE53)

Course Learning Outcomes:

This course will help students understand the key issues related to the Indian economy. It will broaden their horizons and enable them to analyze current economic policy thus improving their chances of getting employed, and be more effective, in positions of responsibility and decision making.

Public Finance (PDE61)

Course Learning Outcomes:

The module aims to introduce students to the main concepts in public finance, equip students with a thorough analytical grasp of government taxes: direct and indirect taxes, and familiarise students with the main issues in government expenditure. At the end of the module the students should be able to demonstrate their understanding of the economic concepts of public finances, use diagrammatic analysis to demonstrate and compare the economic welfare effects of various government policy options, and demonstrate their understanding of the usefulness and problems related to government revenues and expenditures.

Economic Development & Policy in India II (PDE62)

Course Learning Outcomes:

Students will have capability to understand government policies and will enable informed participation in economic decision making, thus improving their employment prospects and career advancement.

Economic History of India (PDE63)

Course Learning Outcomes:

The course exposes students to the intricacies of India's economic, political and social developments both in the past and present times. It develops their analytical skills that will be useful in a variety of careers in academics, research, journalism, private sector and government.

Generic Elective Courses

Principles of Microeconomics (PGE51)

Course Learning Outcomes:

The students learn some basic principles of microeconomics and interactions of supply and demand, characteristics of perfect competition, efficiency and welfare.

Issues in Economic Development (PGE52)

Course Learning Outcomes:

Students will develop a critical understanding of the contemporary issues in Indian economic development. Students will thus be better prepared to face the professional world and can use this knowledge base in a variety of jobs, including in the corporate, civil service and NGO sectors.

Principles of Macroeconomics (PGE61)

Course Learning Outcomes:

This course is useful for understanding various real economic issues and evaluating policy outcomes.

The Indian Economy (PGE62)

Course Learning Outcomes:

Students will develop a critical understanding of the contemporary issues in the Indian economy. Students will thus be better prepared to face the professional world and can use this knowledge base in a variety of jobs, including in the corporate, civil service, and NGO sectors.

Skill Enhancement Courses

Understanding Economic Survey and Union Budget (PS31)

Course Learning Outcomes:

Students will have the capability to understand government policies and will be informed participants in economic decision-making.

Research Methodology (PS41)

Course Learning Outcomes:

The student will develop an understanding of how commonly available data is collected and analyzed. This would help in the interpretation of secondary data and in the management of small primary surveys.

Data Analysis (PS51)

Course Learning Outcomes:

Students will learn to input, visually represent and analyse data.

Bachelor of Arts (Hons.) Philosophy

Programme Learning Outcomes:

The completion of the B A. (Hons.) Philosophy Programme will enable a student to:

- 1. Understand the broad ideas that are enshrined in the basic thinking of various centres of philosophy.
- 2. Develop the idea of creating new theories of metaphysics and epistemology and ethics and logic and aesthetics.
- 3. Critically analyse the hypothesis, theories, techniques and definitions offered by philosophers.
- 4. Utilize philosophy to understand social realities and problems and to come up with ideal solutions to them.
- 5. Identify how deeply philosophy is connected to other disciplines like economics and natural sciences and literature.
- 6. Understand and appreciate the foundational nature of philosophy.

Indian Philosophy (CC (1))

- i. Students of the B.A. (Honors) Indian Philosophy will understand the richness of Indian Intellectual Traditions through basic concepts such as Shruti (agama) and Smriti(Nigama), Karma, Jnana and Bhakti, Indian Idealism vs. Indian Materialism, Preyas, Shreyas and Nihsreyas etc.
- ii. Students will appreciate the Indian Metaphysics of various ancient Indian schools such as Charvaka, Buddhism, Jainaism, Samkhya,Mimamsa and Vedanta. They will become aware of the Metaphysicsof various schools which will help them to understand the society at large.
- iii. In the unit III, students will gain familiarity with the epistemology of Jaina and Nyaya - Vaishesika system. Unit II and Unit III are interrelated in the

sense that epistemology of a particular school can be understood through its metaphysics and vice-versa.

- iv. In Unit IV Students will learn to develop scientific, logical and rational inquiry for understanding the systems. Students will able to do a comparative analysis of all systems which will further enhance their debating skills. Students will develop the ability to think critically and to read and analyze scientific literature.
- v. Students will develop strong oral and written communication skills through the effective presentation of Projects, Quiz as well as through Seminars.

Logic (CC (2))

Course Learning Outcomes:

- Logic is fundamental to the way human beings communicate. Though our public debate and private reasoning are shaped by logical principles, we are not able to spell them out without a basic training in logic.
- ii. This Logic course helps the students to develop an understanding of the basic concepts of logic and language as well as familiarity with precise models of deductive reasoning. It includes theoretical as well as the applied aspects.
- iii. Uses of language manage to differentiate the various applications of language effectively. Informal fallacies enable the students to understand the flaws in the arguments which we use in our day to day life.
- iv. Identifying informal fallacies is very important nowadays to preserve one's intellectual sanctity in an increasingly media saturated world.

Ethics in the Public Domain (GE(1))

Course Learning Outcomes:

i. To equip the students with tools and techniques for handling socio political issues that affect them on individual / collective basis.

- ii. Larger awareness of public issues and empathy with marginalised issues in society.
- iii. Inculcate a sense of ethical responsibility and a vision to challenge the existing norms in need of change.

Greek Philosophy (CC (3))

Course Learning Outcomes:

This course facilitates a comprehension of early Greek tradition. A comprehensive understanding of it is like a foundation course in the Classics. The two great classical traditions, viz., Greek and Indian have left a rich legacy of philosophic knowledge that can be pragmatically and scholastically contextualized in the present day times. Students of Delhi University read Indian Philosophy, this course in Greek Philosophy complements it fairly well for understanding of the classics.

Ethics (CC (4))

Course Learning Outcomes:

- i. The students after having run through basic ethical theories gain a better orientation from the ethical perspective.
- ii. This course helps to understand and interpret events with a more rational basis.

Formal Logic (GE (2))

- i. Formal logic enhances the reasoning skills and develops ground for rejecting the wrong arguments on the basis of sound inferences. It creates ground for eliminating.
- ii. superstitious beliefs and creates ways for strong arguments. This paper helps in good score that provides better rank in form of results.
- iii. It trains the student to construct good arguments and also provides valid ground to reject the wrong ones.

Western Philosophy: Descartes to Kant (CC (5))

Course Learning Outcomes:

This paper seeks to do three things:

- i. It will enable students to witness how philosophers who were either predecessors or contemporaries evaluated the theories of others, thus will advise them in distinguishing good arguments from bad arguments.
- ii. It will enable students to have a better understanding of how a man thinks and what goes on into the making of human thought.
- iii. It will also make students aware that there is no place for superficial approach to the complex questions in life.

Social and Political Philosophy: Indian & Western (CC (6))

Course Learning Outcomes:

- i. To make students a better citizen by understanding the notion of democracy.
- ii. To know rights of Individuals and communities.
- iii. To learn to live in cohesive manner in a multicultural setup.

Applied Ethics (CC (7))

Course Learning Outcomes:

This course is designed to make students philosophically competent about their own decisions, to achieve clarity, develop comprehension skills and reach precision in arguments with reasons. A spectrum of issues ranging from morality, environment, real life situations, moral dilemmas and ongoing philosophical examination of the crisis in the field of artificial intelligence are a part of this course curriculum.

Critical Thinking and Decision Making (SEC (1))

Course Learning Outcomes:

This course:

- i. Helps in generating productive/creative ideas for further use in difficult situation.
- ii. Creates enthusiasm for taking a risk of dealing with difficult issues and finding a way out for solution.
- iii. Provides valuable intellectual traits like how to critically read, listen and write and develop faith in reason and encourage a flair for fairness and justice. As a result, a learner learns step by step how to arrive at an ideal solution keeping in mind all situational factors.
- iv. Provides clarity in thinking as well as proper understanding of an issue to make it precise for further analysis.
- v. Helps to use the skills of observation, analysis and evaluation and also provides sound reason for doubting and questioning.
- vi. Finally, the learner becomes self-directed, self-monitored and selfcorrective through this process of reflective thinking, and can proceed for right choice.

Feminism (GE (3))

Course Learning Outcomes:

Study of Feminism arms the student with analytical skills to develop valid arguments to counter gender discrimination, sexism and patriarchal dominance. Feminist theory has a social agenda i.e. to initiate transformation in social structures, customs and practices. Thus the study of Feminism is not only an empowering tool against gender oppression but also against other systems of oppression such as race, class and colour.

Critical Thinking (GE (4))

Course Learning Outcomes:

This course:

i. Helps in generating productive/creative ideas for further use in difficult situation.

- ii. Creates enthusiasm for taking a risk of dealing with difficult issues and finding a way out for solution 3. Provides valuable intellectual traits like courage, empathy, perseverance and faith in reason and encourage a flair for fairness and justice. As a result, a learner learns step by step how to arrive at an ideal solution keeping in mind all situational factors.
- iii. Provides clarity in thinking as well as proper understanding of an issue to make it precise for further analysis.
- iv. Helps to learn how to read, write and think critically, how to separate bad information from good information and helps in constructing cogent arguments.
- v. Finally, the learner becomes self-directed, self-monitored and selfcorrective through this process of reflective thinking.

Text of Indian Philosophy (CC (8))

Course Learning Outcomes:

After having done this course, the student is expected to have mastered the art of philosophically reading the given textual excertps and to understand the issues hermeneutically afresh, keeping in mind the dialogical and pluralistic nuances employed in the epistemic enterprise.

Text of Western Philosophy (CC (9))

- i. The idea is to encourage the students towards a comparative trajectory where they probe the similarities and differences between the Western and non-Western stands of thought. Hence, one of the key learning outcomes would be and should be to develop comparative skills.
- Most Western philosophers were also the patriarch of modern statecraft. They imbued moral and ethical considerations quite heavily in their philosophical teachings. Thus, by focussing on individual philosophical

thought from original texts, the students would be capable of differentiating between positive and normative worldview.

iii. Since Philosophy, whether Western or Oriental, is all about values and rational thinking, the students would develop skills to place any public issue on the edifice of ethical foundations and provide moral weightage to their arguments.

Truth Functional Logic (CC (10))

Course Learning Outcomes:

It enhances the logical reasoning and problem-solving skills.

Art & Film Appreciation (SEC (2))

Course Learning Outcomes:

It is a skill to develop and enhance philosophical analysis and contextualizing in terms of rasa, empathy and disinterestedness.

Bio-Ethics (GE (5))

Course Learning Outcome:

The learning outcomes of this course are multidimensional. It forms a strong base in the field of research of ethics and medicine care. It would also increase the students' ability to identify their role in capacity building. It directly enforces students' role in social responsibility.

Symbolic Logic (GE (6))

Course Learning Outcomes:

This course helps in learning the various principles and methods of basic as well as higher logic. Through the development of its special symbols, this course (advanced logic) helps as an instrument for analysis and deduction. It helps in examining more complex arguments for deriving clear rational conclusions. This paper helps in good score that provides better rank in form of results. This is an appropriate paper for applying the logical/mathematical skill and to make use of artificial intelligence effectively.

Analytic Philosophy (CC (11))

Course Learning Outcomes:

The course in Analytic Philosophy for Hons., (C11), is designed keeping in view the following learning outcomes:

- i. Introducing students to the primary thinkers of one of the most important and influential school of thought in Western Philosophy.
- Acquainting students with the complex set of interconnected sub-traditions that Analytic Philosophy ramified into and which became equally influential in the twentieth century.
- iii. Inculcating young minds with the basic training associated with the tradition, such that it is prepared to engage in critical and reflective thinking.
- iv. Enabling students to reduce complex issues into simpler components that will facilitate clearer understanding.

Continental Philosophy (CC (12))

- i. Make students gain familiarity with, and clear understanding of, the major thinkers of Continental tradition and their philosophy.
- ii. Improved critical reading of the texts, their rational and logical understanding, and writing abilities.
- iii. Students will learn to develop scientific, logical and rational inquiry for understanding the thinkers and their philosophy. Students will able to do a comparative analysis of all thinkers which will further enhance their debating skills. Students will develop the ability to think critically and to read and analyze scientific literature.
- iv. This will help the students to develop openness to new ideas.

- v. Create awareness among the students of the complexity of issues and willingness to examine issues from many different perspectives.
- vi. Students will reflect on and critically evaluate new and unfamiliar concepts.
- vii. Exposure to various texts of Continental Philosophy.
- viii. Students will develop strong oral and written communication skills through the effective presentation of Projects, Quiz as well as through Seminars.
- ix. Finally, it will give a holistic development of their personality.

Philosophy of Mind (DSE (1))

Course Learning Outcomes:

After completing the course, the students will have

- i. An overview of the most important directions within the philosophy of mind in the 20th century.
- ii. An insight into issues that connect philosophy of mind to modern cognitive science.
- iii. An understanding to appreciate that how human thinking involves context constituted by the body.
- iv. An understanding that thinking extends beyond the brain and is embedded in the body's habitual encounters with the world.
- v. A cognizance how concepts involve the role of sensory, motor, affective experiences and are thus embodied.

Philosophy of Science (DSE (2))

Course Learning Outcomes:

Students are equipped with an articulated basis for the philosophical analysis of scientific methodology. They no more remain under the impact of scientific dogmas. Their ability to express their arguments with clarity and precision is enhanced with the study of Popper, Kuhn, Lakatos, Feyerabend, sequence of theories regarding scientific methodology and rationality of science, students have understanding of latest changing trends in philosophy of science.

Philosophy of Law (DSE (3))

Course Learning Outcomes:

The ideal outcome of this course is to make students understand the concept of law, its place in our lives, its formal structure, rules and modalities. Students should be able to discuss and argue on crucial legal questions that impact the life of common citizens with sensitivity, acumen, precision and insight.

Indian Materialism (DSE (4))

Course Learning Outcomes:

The student after having done this course is expected to have a fair understanding of the theoretical construct as well as the argumentative force of materialism as a philosophical theory and its significance in reading the Indian intellectual traditions today.

Bio Ethics (DSE (5))

Course Learning Outcomes:

The learning outcomes of this course are multidimensional. It forms a strong base in the field of research of ethics and medicine care. It would also increase the students' ability to identify their role in capacity building. It directly enforces students' role in social responsibility.

Philosophy of Religion: Indian and Western (CC (13))

Course Learning Outcomes:

The students will acquire a general understanding of religious issues. They will learn to think critically about religious issues.

Philosophy of Language (CC (14))

Students are equipped with an enhanced ability to explain key distinctions in theories of Frege, Russell and Strawson. Grasping the philosophical position of Nyaya school of philosophy and understanding the theory of meaning of words and sentences in Nyaya Siddhanta Muktavali. Students are able to know, towards the end of the course, what they learnt and communicate to others their understanding of the fundamental issues in philosophy of language.

Feminism (DSE (6))

Course Learning Outcomes:

Study of Feminism arms the student with analytical skills to develop valid arguments to counter gender discrimination, sexism and patriarchal dominance. Feminist theory has a social agenda i.e. to initiate transformation in social structures, customs and practices. Thus the study of Feminism is not only an empowering tool against gender oppression but also against other systems of oppression such as race, class and colour.

Indian Theories of Consciousness (DSE (7))

Course Learning Outcomes:

- Students will have knowledge of the Indian Theories of Consciousness given in Mandukyopanishad, Bhagavadgita, Buddhism, Jainism, Samkhya, Charvaka, Nyaya and Advaita Vedanta.
- ii. In all four units, students will learn to develop scientific, logical and rational inquiry for understanding the Indian Philosophical systems. Students will able to do a comparative analysis of all systems which will further enhance their debating skills.
- Students will develop strong oratory and writing skills through the effective presentation of projects, debates, as well as through Seminars, conference, workshops.

Aesthetics (DSE (8))

Course Learning Outcomes:

The course prepares the students to pursue and qualify for a career in art, culture and media studies.

Knowledge and Skepticism (DSE (9))

Course Learning Outcomes:

The learning outcomes aimed at are the following:

- i. To learn about general issues in epistemology.
- ii. To learn about the problems regarding the definition of knowledge.
- iii. To learn about the justification of knowledge.
- iv. To consider the challenge from radical scepticism and the responses.

Philosophy of Logic (DSE (10))

- i. To learn about philosophy of logic, philosophical logic and philosophy and logic.
- ii. To understand basic theories and problems regarding the notion of a proposition.
- iii. To have a better understanding of terms like "analytic", "a priori", de dicto, de re, possible worlds, essentialism.
- iv. To grasp the fundamental problems regarding existence, reference and presupposition.