

Aff.: Pt. Ravishankar Shukla University, Raipur (C.G.) and recognized under section 2(f) of the UGC Act. 1956) Under the aegis of Disha Education Society

## Programme Outcome



## Course Outcome

ADDRESS: Disha Park Campus, Ram Nagar-Kota Marg, Behind NIT and Hotel Piccadilly, Raipur (C.G.) 492010 E-mail: principal.dishacollege@dishamail.com Website: www.dcindia.iN



#### PREFACE

Welcome to the insightful journey through the Programme Outcome (PO) and Course Outcome (CO) booklet of Disha College. As an institution committed to excellence in education, we take pride in presenting the Programme Outcome (PO) and Course Outcome (CO) framework that defines our commitment to holistic education.

In the dynamic landscape of education, the significance of clearly defined outcomes cannot be overstated. The PO and CO framework serves as a compass, guiding both educators and students towards a shared destination of academic achievement and skill development. By delineating the knowledge, skills, and attitudes that learners are expected to acquire during their academic pursuits, these outcomes foster a holistic and meaningful learning experience.

This booklet encapsulates the essence of our commitment to quality education and our dedication to shaping well-rounded individuals ready to face the challenges of the globalized world. Each course outlined herein is a testament to the meticulous planning, thoughtful design, and rigorous assessment that goes into crafting a curriculum at Disha College.

We extend our gratitude to the dedicated faculty members, diligent students, and supportive stakeholders who have contributed to the development and refinement of our educational programs. Together, we strive to create an academic environment that not only imparts knowledge but also instills a sense of purpose and a commitment to excellence.

Best wishes for a rewarding and enriching learning experience.

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### **OVERVIEW OF DISHA COLLEGE**

Disha College is located in Raipur, the capital of Chhattisgarh. Disha College is managed by Disha Education Society. The Society is promoted by Shri S.K Jain, an eminent industrialist in this region having a vision of promoting quality education in this area. Purpose of Disha is a perpetual conscientious effort, it is a revolution of thoughts, it is a learning process to implement knowledge with wisdom in welfare of personal life, social life and for the universe with the Motto of "Learning with Conscience".

Disha College offers number of courses as per syllabus of Pt. Ravishankar Shukla University, Raipur (C.G), with the Vision to build leaders of future by imparting meaningful & conscientious learning process to provide proper direction, momentum to their creativity and to imbue willpower to achieve. The society looks forward to establish August temple of learning to educate & train people to become conscientious performers and to reach the pinnacle of glory. Mission of Disha is a relentless pursuit and postulation, for embedding harmony and co-existence as essence of living of man and universe.

#### VISION

To build leaders of future by imparting meaningful and conscientious learning process to provide proper direction, momentum to their creativity and to imbue willpower to achieve.

#### **MISSION**

A relentless pursuit and postulation, for embedding harmony and co-existence as essence of living of man and universe.

To carry out its Mission Disha College is committed,

- **4** To provide high class infrastructure & atmosphere for an improved level of teaching and training.
- To offer broad and balanced academic programs that is mutually reinforcing and emphasizes high quality and creative directions at all levels.
- To generate new knowledge in students through a broad array of scholarly, research oriented and creative endeavours to provide them a foundation for dealing with the immediate and long-range needs of society.
- **4** To improve employability of students by providing soft skill and personality-oriented programs.
- To instil in students a conscious and committed approach through coordinated outreach programs to serve society effectively.

#### Programme Outcome for Three Years Degree Programme

PO1	<b>Fundamental Knowledge:</b> Apply fundamental knowledge to analyze, evaluate and synthesize complex information and prepare for advanced learning and understanding.
PO2	<b>Problem analysis and Critical Thinking:</b> Identify, formulate and analyze complex problems reaching substantiated conclusions using basic concepts. Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational and personal) from different perspectives.
PO3	<b>Effective Communication:</b> Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language and make meaning of the world by connecting people, ideas, books, media, and technology.
PO4	<b>Social Interaction:</b> Elicit views of others, mediate disagreements and help reach conclusions in group settings.
PO5	<b>Ethics:</b> Recognize different value systems including your own, understand the moral dimensions of your decisions and accept the responsibility for them.
PO6	<b>Environment and sustainability:</b> Understand the issues of environmental contexts and sustainable development.
PO7	<b>Self-directed and Life-long-Learning:</b> Acquire the ability to engage the independent and life-long learning in the broadest context socio-technological changes.

#### Programme Outcome for Postgraduate Programme

PO1	<b>Advanced Knowledge:</b> Postgraduate programs aim to provide students with a deep and advanced understanding of their chosen field of study. This includes both theoretical and practical expertise
PO2	<b>Research and Analytical Skills</b> : Developing the ability to conduct research, analyze information critically, and apply problem-solving skills within their area of specialization. They should be able to analyze complex problems, synthesize information, and develop new insights in their field.
PO3	<b>Communication and Presentation Skills</b> : Postgraduate students should be able to effectively communicate their ideas, research findings, and solutions through written reports, presentations, and other forms of communication
PO4	<b>Ethical and Social Responsibility:</b> Understanding the ethical implications of their work and acknowledging the broader societal impact of their field of study.
PO5	<b>Professional Development:</b> Postgraduate programs aim to prepare students for their future careers or further academic pursuits. This may involve training in professional ethics, leadership skills, and practical experience through internships, placements, or industry collaborations.
PO6	<b>Self-directed and Lifelong Learning</b> : Instilling a mindset of self-directed study and lifelong learning, enabling students to take initiative in their studies and pursue further knowledge beyond the classroom with evolving technologies and practices in their field.
PO7	<b>Global Perspective and Cultural Awareness:</b> With the world becoming increasingly interconnected, programs often emphasize the importance of a global perspective, encouraging students to understand and appreciate diverse cultures and global issues within their field of study.



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# Department of Commerce

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#### **DEPARTMENT OF COMMERCE**

Bachelor of Commerce (Plain) is a three-year undergraduate degree course. It comprises of the challenges and financial issues that comes in way of organizations in the market place or economy. This course enables them to resolve the economic issue of the market. The degree equips the students with knowledge of accounting principles, economic policies and other aspects that has an impact on the trade and business. Students are competent to get immense opportunities in sectors related to financial services, banking and government.

B.Com. Computer Applications is a three-year full-time undergraduate program that deals with studying various aspects of computer science along with Commerce. It is a combination of Commerce and computer applications for commerce disciplines that require knowledge of computers. This course is designed to equip students with integrated knowledge of commerce and computer systems. In addition, this course offers ample job opportunities in the IT and Commerce industry. Upon completing the course, students can work as Business Analyst, Business Consultant, Auditor, Computer Programmer, App Developer, etc.

A graduate can take an M.Com. degree. Master of Commerce is a postgraduate master's degree focusing on commerce-, accounting-, management- and economics-related subjects. After completing the degree, the students will have numerous career alternatives and can choose and apply to various jobs, like operation manager, finance consultant, investment banker, marketing stockbroker/trader, actuary, financial analyst, manager, accountant. One of the latest and most important developments is E-commerce or Electronic Commerce, which represents the transaction of goods or services online.

#### VISION

Providing favorable environment for quality education in commerce and to inculcate in students the fundamentals of Business.

#### **MISSION**

To help students learn how to manage money and investments, make smarter financial decisions; learn about accounting, taxes, and how to invest wisely which is important for their good life. To develop entrepreneurship and managerial skills in students to enable them to establish and manage their business establishments effectively.

#### **Department of Commerce** Course Outcome for B.Com.

B.Com. – I		
Paper	Course Outcomes	
हिन्दी भाषा	CO1: पल्लवन, अनुवाद, पत्राचार एवं कहानी को स्पष्ट कर सकेंगे। CO2: अशुद्धियों का वर्गीकरण एवं कविता की व्याख्या कर सकेंगे। CO3: देवनागरी के अन्य नामों का उल्लेख एवं अपठित गद्यांष से भाषा की क्षमता का विकास कर सकेंगे। CO4: कम्प्यूटर और भाषा के बीच द्विभाषात्मक सम्बंध स्पष्ट कर सकेंगे। CO5: भाषा के विभिन्न रुपों का वर्णन एव आधुनिकीकरण की प्रक्रिया की विवेचना कर सकेंगे।	
English	<ul> <li>CO1: To teach the value of English grammar in effective communication &amp; to articulate the correct form of tenses.</li> <li>CO2: To discover the ability to read &amp; write by illustrating them the skills of writing &amp; reading.</li> <li>CO3: To discover the different structures of sentences &amp; correlate them according to the need of communication</li> <li>CO4: To reframe the extract of multi diversity in language by using voice &amp; narration.</li> <li>CO5: To write and modify the complete structural details of paragraph writing and becoming able to read more effectively</li> </ul>	
Financial Accounting	<ul> <li>CO1: Students will know how to Apply the generally accepted accounting principle, Accounting Standard while recording transactions with GST and preparing Representing&amp; reproducing Primary records of transactions including Journal, Ledger and Cash Book.</li> <li>CO2: Students learn how to Prepare Final accounts for knowing and justifying the Profitability &amp; the financial position of the company, Depreciation and rectifying, and explaining the errors other account necessary while running a business.</li> </ul>	

B.Com. – I		
Paper	Course Outcomes	
	CO3: To Demonstrate accounting process under computerized accounting	
	system by preparing and constructing Fund Flow and cash flow statement,	
	restore and backup the data. Also prepare the final accounts with all primary	
	records in computer.	
	CO4: Students will able to learn and comprehend how to Prepare Hire	
	Purchase system with journal entries and ledger, Accounting of inland	
	Branches for branch-to-branch business ideas.	
	<b>CO5:</b> Students will able to recognize and assess how to Prepare dissolution and	
	Amalgamation accounting. unit of partnership firm: joint venture Procedure,	
	Conversion of partnership firm into limited liability company.	
	<b>CO1:</b> Define the concept and significance of Business communication including	
	its forms, models, theories and process. Application of SWOT analysis and	
	Business Language	
	CO2: Classification of Corporate communication. Explanation of	
	miscommunication and Practices in Business Communication. Application of	
	Principles of Effective Listening.	
<b>.</b>	CO3: Implementation of Writing Skills in Business Letters. Identification of	
Business	needs and kinds of business letter along with Essential elements of Effective	
Communication	Business letter.	
	<b>CO4:</b> Define Report Writing and its types. Application of Presentation skills	
	following the principles of Oral presentation.	
	<b>CO5:</b> Analysing verbal aspects of communication and Proxemics. Application	
	of Interview skills. Use of Modern forms of communication like video	
	conference, E- mail etc. Interpretation of international communication for global	
	business.	
	CO1: To explain simple ratios, convert between fractions, decimals and	
<b></b>	percentages, find percentages of different quantities and calculate percentage	
Business Mathematics	increases and decreases.	
manemanes	CO2: Explain the meaning of profit and loss in an income statement	
	and calculate profits and losses commission and brokerage in different business.	

B.Com. – I		
Paper	Course Outcomes	
	<ul><li>CO3: To Perform matrix operations and solve the matrix equation using elementary matrix operations and know to prepare invoice and their advantages.</li><li>CO4: To compute Logarithm and its applications in simple and compound</li></ul>	
	interest and explain their application in real world.	
	<b>CO5:</b> Recognize Vedic Math to perform calculations in Arithmetic, Algebra to simplify and speed up calculations.	
	<b>CO1:</b> Define the students about the terms and provisions of Business Law and Indian Contract Act, 1872. Explain the students Classification of contract with illustrations.	
	<b>CO2:</b> Define the students about Special Contract Acts and their uses in our day-to-day life.	
Business Regulatory Framework	<b>CO3:</b> Explain the students about Sale of goods Act, 1930, conditions and warranties and recognizing its need.	
	<b>CO4:</b> Recall and explain the students about and Negotiable Instrument Act, 1881.Define the Information Technology Act 2000, Cyber-crime 2012 related to e-business only.	
	<b>CO5:</b> Define Consumer Protection Act, 2005 and 2019, Partnership Law, provisions of the Partnership Act of 1932 and LLP Act 2008.	
	<ul><li>CO1: To explain components of business environment and to explain relationship between environment and business.</li><li>CO2: The students will be able to explain economics problem of growth and</li></ul>	
Business Environment	<ul><li>economics of growth.</li><li>CO3: The student will be able to demonstrate and develop conceptual frame work of international business environment.</li></ul>	
	<b>CO4:</b> To make student Discover government policies and different roles for the emergence, upliftment and smooth functioning of business organization. <b>CO5:</b> Student will able to state various economic planning and concept of GDP and economic environment with respect to Chaptingarh and India	
Business Economics	CO1: Students will recall how different economic system function and evaluate implications of various economic decisions.	

B.Com. – I	
Paper	Course Outcomes
	CO2: Examine how consumers try to maximize their satisfaction by spending
	on different goods.
	CO3: Analyse the relationship between input used in production and the
	resulting outputs and costs.
	CO4: Analyse and interpret market mechanism and behaviour of firms and
	response of firms to different market situations. Examine various facets of
	pricing under different market situations.
	CO5: Students discovers various prospect of development in Chhattisgarh
	analytical study of economic survey of Chhattisgarh.

B.Com. – II		
Paper	Course Outcome	
	CO1: सत्य और अहिंसा का समाज में स्थान की अभिव्यक्ति को जान सकेंगे।	
	CO2: मातृभूमि निबंध और सम्भाशण कुशलता में अभिव्यक्ति की व्याख्या कर सकेंगे।	
हिन्दी भाषा	CO3: डॉ. खूबचंद बघेल की जीवनी पर चर्चा कर सकेंगे।	
	CO4: हिन्दी भाषा के विविध रुप और अभिव्यक्ति के प्रयोग को जान सकेंगे।	
	CO5: हिन्दी की व्यवहारिक कोटियों को विष्लेशित कर सकेंगे।	
	CO1: Improved effective reading and understanding on different subjects on	
	science duly recognizing the contribution of Indian ancient scientists and ability	
	to reproduce and right answers on the questions of the read material.	
	<b>CO2:</b> Improved to comprehend and interpret a text read for the first time and	
	being able to represent and formulate accurate answers with reference to the	
	the synonyms and how to construct a new word or modify a word with the help	
	of affixal – prefixes and suffixes.	
English	<b>CO3:</b> Demonstrated and generated to learn precise and quality writing	
	depending upon the subject and requirements of the issue.	
	<b>CO4:</b> This again has taught to be able to write effectively and expanding an	
	idea.	
	CO5: Learning by revising and recalling the topics of Grammar, already	
	covered in previous classes, has further strengthened the foundation of the	
	English language. Learning to improve the vocabulary has instilled the desire to	
	continue to work on it.	
	requirements of financial statements	
	<b>CO2:</b> To state the financial position of a company and to apprehend the	
Corporate	instructions which should be considered in process of preparing these statements	
Accounting	and to explain the process of dissolution.	
	<b>CO3:</b> To explain the process of various issues of shares and its valuation and	
	to conclude valuation of goodwill in company.	

B.Com. – II		
Paper	Course Outcome	
	<ul><li>CO4: To determine the accounting process of amalgamation, internal reconstruction etc.</li><li>CO5: To determine the various provisions of Company Law relating preparation of consolidated Balance sheet of holding, subsidiary and Banking companies.</li></ul>	
Company Law	<ul> <li>The course will enable students to develop awareness about Company Law in conformity with the provisions of Companies Act, along with recent amendments in the companies Act. The objectives of the program are-CO1: To make them verse in the fundamentals of company form of organization by critically evaluating its peculiar nature.</li> <li>CO2: To make them distinguish legal aspects of the process of formation of a company and importance of legal documents required for formation.</li> <li>CO3: To make them aware of company management and capital management.</li> <li>CO4: To make them aware of various types of decisions and meetings in the company.</li> <li>CO5: To make them aware of the rights of the shareholders rights and powers.</li> </ul>	
Cost Accounting	<ul> <li>CO1: Learning various inventory valuation methods, such as FIFO, LIFO, and weighted average, and their impact on financial statements and Proficiency in managing and controlling materials inventory efficiently, including setting reorder points, calculating economic order quantities, and maintaining safety stock levels.</li> <li>CO2: Learning outcomes for Accounting for Labor in brief include, classifying labour costs, administering wages and salaries, using labour cost data for decision-making, Addressing ethical considerations and Effective communication of labour cost information.</li> <li>CO3: Learning outcomes for Unit Costing in brief include: Explain unit cost principles, calculating unit costs accurately, explain contract costing principles, Accurate contract cost calculation, applying contract costing methods, Effective cost control in project contracts and Decision-making using contract cost data.</li> </ul>	

B.Com. – II		
Paper	Course Outcome	
	<ul><li>CO4: Learning outcomes for Operating Costing in brief include: Explain operating cost principles and Process costing is a valuable tool for industries with continuous, large-scale production processes.</li><li>CO5: learning outcomes are essential for individuals studying cost records and cost accounting, as they provide the knowledge and skills necessary to accurately record, manage, and report costs within a business or organization.</li></ul>	
Principles of Business Management	<ul> <li>CO1: To define the concepts of Management, Management Roles its Functional areas and to interpret the management thoughts.</li> <li>CO2: To define the concept and process of Planning and Decision making. Interpret the Strategy formulation with Environment Analysis and diagnosis.</li> <li>CO3: To define the concept of Organizing and Organizational Structure. Authority and Resident relationship, to distinguish between Centralization and Decentralization.</li> <li>CO4: To define the concept of Motivation and Leadership. Motivation theories, leadership theories and leadership styles. Recalling the communication concept.</li> <li>CO5: To define the concept of Management Control, Effective Control system and Management of Change.</li> </ul>	
<b>Business Statistics</b>	<ul> <li>CO1: To be equipped with the tools of processing and description of statistical data and summarize measures of central tendency, and their implementation in summarizing and justifying data.</li> <li>CO2: To enable students to analyse and interpret data variability and asymmetry, enhancing their ability to make informed business decisions.</li> <li>CO3: To develop competence to use statistically tools and identify the relationship between variables, make predictions and make informed business decisions.</li> <li>CO4: To make them exemplify and apply methods of measuring changes in economic variables and associate trends and patterns in data.</li> <li>CO5: To be acquainted with the forecasting techniques and methods to make them familiar with the theory of probability.</li> </ul>	
Fundamental of Entrepreneurship	The purpose of this subject is to provide orientation towards entrepreneurship as a career option and encourage creative thinking for effectiveness at work.	

B.Com. – II		
Paper	Course Outcome	
	CO1: Define entrepreneur and theories of entrepreneurship. Interpretation of	
	emergence of entrepreneurial class and analysis of socio- economic	
	environment.	
	CO2: Define promotion of venture. Analysis of social, technological, legal	
	environment to determine opportunities for establishment of new unit.	
	Identifying sources available for raising funds and necessary documentation	
	CO3: Explanation of entrepreneurial behaviour, Psycho theories and	
	importance of innovation and entrepreneur. Identification of social	
	responsibility of entrepreneurs	
	CO4: List various EDP'S (Entrepreneurial development program) of	
	Government, their role and critical evaluation.	
	CO5: Comprehension of role of entrepreneur in economic growth as: an	
	innovator, in employment generation, regional development and Export.	
	Determination of entrepreneur's contribution in forex earnings.	

B.Com. – III		
Paper	Course Outcome	
हिन्दी भाषा	CO1: भारत माता के विविध रूप और षैली की अभिव्यक्ति को जान सकेंगे। CO2: सूखी डाली तथा विभिन्न संरचनाओं को विष्लेशित कर सकेंगे। CO3: कार्यालयीन पत्र के अर्थ प्रकार उदाहरण को विष्लेशित कर सकेंगे। CO4: योग की महत्व के सह संज्ञानात्मक गतिविधियों पर चर्चा कर सकेंगे। CO5: संस्कृति और राष्ट्रीय एक सूत्रात्मक सम्बंधों को स्पष्टट कर सकेंगे।	
English	<ul> <li>CO1: Improved effective reading and understanding on different subjects on science duly recognizing the contribution of Indian ancient scientists and ability to reproduce and right answers on the questions of the read material.</li> <li>CO2: Improved the competence to justifiably write extensively and systematically on a topic.</li> <li>CO3: Learnt the analytical ability to interpret and summarize a given text keeping all the important points intact.</li> <li>CO4: Improved to evaluate and comprehend a text read for the first time and being able to represent and give accurate answers with reference to the context. Helped to learn how to recall and improve vocabulary, the antonyms, the synonyms and how to construct a new word or modify a word with the help of affixal – prefixes and suffixes.</li> <li>CO5: Learning by revising the topics of Grammar, already covered in previous classes has further strengthened the foundation of the English language.</li> </ul>	
Income Tax	<ul> <li>CO1: Defined and explained students Income Tax system properly, and can get the knowledge of different tax provisions. Basic concepts regarding Assesses, Assessment Year, Previous Year, Person, Gross Total Income, Total income, Residential Status and Exempted Income with adequate number of illustrations.</li> <li>CO2: Explained students how to evaluate Taxable Income under the head salaries and house properties with illustration.</li> <li>CO3: Explained students how to evaluate on calculation of Taxable Income under the head profits and gains under the head business or profession and capital gain and income from other sources.</li> </ul>	

B.Com. – III	
Paper	Course Outcome
	<ul> <li>CO4: Defined and explained Clubbing, standard deductions under section 80C to 80U, set-off and carry forward of losses and computation of total income.</li> <li>CO5: Defined and explained students' preparation of Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection, appeal and penalties</li> </ul>
Auditing	The course aims at imparting knowledge about the principles and methods of auditing and their applications by- <b>CO1:</b> Making them summarize the audit and other assurance engagements, corporate governance, internal and statutory audit, types of audit and objectives of audit. <b>CO2:</b> Making them exemplify the Recognition of risk assessment, audit planning, documentation and audit evidence and describe internal control, internal check, test of control and other audit procedures. <b>CO3:</b> Making them compare the finalization of audit report and types of audit report and explain vouching of trading transaction, verification and valuation of assets & liabilities. <b>CO4:</b> Illustrate them the concept of audit in Non-Profit Organization. <b>CO5:</b> Making them justify concept of cost audit, tax audit and management audit
Indirect Taxes with GST	<ul> <li>CO1: To explain Students law regarding valuation and customs duty as per customs act.</li> <li>CO2: To make students discover the provisions of Chhattisgarh state Excise and valuation of Fixed Duty under this act.</li> <li>CO3: To identify knowledge regarding introduction of goods and Service Tax.</li> <li>CO4: To find the Knowledge of exemptions and Registration under Goods and Service Tax.</li> <li>CO5: This course targets to make able students derive the taxable value under GST and Apply Provisions of Input tax credit scheme under GST.</li> </ul>

B.Com. – III	
Paper	Course Outcome
	<b>CO1:</b> To Explain the Management accounting concept and Ratio analysis.
	CO2: Demonstrate the preparation and presentation of Fund Flow Statement
	and cash Flow statement.
	<b>CO3:</b> Analysing the Absorption and Marginal costing as a tool for Decision
Management	making.
Accounting	CO4: Classify the budget of profit and planning & control of budget of a
	business. It provides how to manage the breakeven point where no profit and no
	loss in the business.
	CO5: To interpret the Standard costing with its application and Variance
	analysis.
	CO1: This course targets to develop knowledge of different financial
	management techniques, dividend decisions and financial planning.
	<b>CO2:</b> Capital budgeting and its tools along with investment evaluation criteria.
Financial	<b>CO3:</b> To classify the concept of cost of capital their measures and effect on profit.
Management	<b>CO4:</b> To make them distinguish Capital structure theory, dividend policy and
	determinants.
	<b>CO5:</b> Management of working Capital in business, and working capital requirement.
	<b>CO1:</b> This course aims at acquainting the students with the working of financial
	market in India.
	<b>CO2:</b> Here they learn about Indian money market composition and structure.
Financial Market	<b>CO3:</b> Discussion on securities contract and regulation act, SEBI and summarize
Operation	its implications.
	<b>CO4:</b> Here they will learn and discover about functionaries of stock exchanges.
	<b>CO5:</b> To make them exemplify about financial services of market.
Principle of	The Objective of this course is to help students to understand the concept of
Marketing	marketing and its applications.

B.Com. – III	
Paper	Course Outcome
	<ul> <li>CO1: To define marketing its scope and nature. Classification of concepts of marketing. Interpretation of marketing mix, analysis of marketing environment and also differentiating between various marketing components.</li> <li>CO2: It helps students to comprehend importance of consumer behaviour in marketing planning. It also stresses on importance of market segmentation. Analysis of factors affecting selection of Target Market.</li> <li>CO3: To define concept of product, Product cycle and its various stages. Implementation of pricing method in marketing mix.</li> <li>CO4: Identification and selection of distribution channels and Physical distribution. Classification of various types of distribution channels and factors affecting it. Explanation of physical distribution chain.</li> <li>CO5: Define promotion and various method of promotion. Identification of its significance in the sale of the product and also the various innovative methods</li> </ul>
	adopted to promote a product or service.
Intranational Marketing	<ul> <li>This course aims at acquainting student with the operations of marketing in international environment.</li> <li>CO1: Define International Marketing its scope and nature. Differentiate between domestic and international marketing. Analysis of internal and external international environment.</li> <li>CO2: Identification and selection of the foreign market. Analysis of various entry modes available. Define the concept of international Product planning, designing, pricing after sales services and Factors influencing international price.</li> <li>CO3: Define the product promotion and method of international promotion. Stating importance of international promotional activities for product and services.</li> <li>CO4: Identification and selection of international distribution channels and logistics decision. Selection and appointment of foreign sales agent.</li> <li>CO5: Explanation of export policy and its practices in India. Determining the steps involved in export business, product selection, market selection.</li> </ul>
Computer Application Paper – I Programming in 'Visual Basic' Paper – II	<ul> <li>CO1: Explaining the Visual Basic Programming Language.</li> <li>CO2: Explain the VB Compiler and related technology.</li> <li>CO3: Demonstrate System analysis and design, and its types.</li> <li>CO4: Demonstrate management information system and its types.</li> </ul>

B.Com. – III	
Paper	Course Outcome
System Analysis & Design, Management Information System	<b>CO5:</b> Measure the problem-solving methodology using the system analysis and design, and management information system.
Computer Application Practical Programming in 'Visual Basic'	<ul><li>CO1: Explaining and programming the Visual Basic Programming language.</li><li>CO2: Explain the VB compiler and related technology.</li><li>CO3: Measure the problem-solving methodology using the VB Programming feature.</li></ul>

#### **Course Outcome for M.Com.**

M.Com. – I Sem.	
Paper	Course Outcomes
Managerial Economics	<ul> <li>CO1: Define the nature and scope of managerial economics. Stating its objectives of managerial economics. Interpretation of Economics theory and managerial theory. Identification of managerial economist's role and responsibilities.</li> <li>CO2: Define fundamental economics concepts: incremental principle, opportunity cost principle, equ-marginal principle, discounting principle.</li> <li>CO3: Interpretation and analysis of Market demand. Define the law of demand, determinants of demand, elasticity of demand and its type.</li> <li>CO4: Exemplify theory of consumer choice, cardinal utility approach, indifference approach, demand estimation for major consumer durable and nondurable products, demand forecasting technique.</li> <li>CO5: Attribute of Production theory, production function, Exhibit stages of production and its estimation</li> </ul>
Advanced Accounting	<ul> <li>The objective of this course is to expose students to accounting issues and practices such as maintenance of company accounts and handling accounting adjustments by making the students learn about-</li> <li>CO1: The procedure of share and Debentures help to classify the financial arrangement of company.</li> <li>CO2: Attribute of financial accounts and proper knowledge of adjustments.</li> <li>CO3: The accounting of companies in the case of reconstruction and amalgamation.</li> <li>CO4: The accounting work of subsidiary company as well as position.</li> <li>CO5: The rules about the liquidation of company and legal outline.</li> </ul>
Income Tax Law and Account	<ul><li>CO1: It provides the knowledge and skills necessary to navigate the intricacies of income tax laws, ensuring compliance, ethical practices, and effective tax planning in diverse financial scenarios.</li><li>CO2: To make students understand that students should be proficient in calculating taxable income under the heads of salary and house property,</li></ul>

M.Com. – I Sem.	
Paper	Course Outcomes
	<ul> <li>incorporating relevant exemptions, deductions, and complying with reporting standards.</li> <li>CO3: it helps in understanding the implications of depreciation for asset valuation, financial reporting, and taxation.</li> <li>CO4: To enable students should be proficient in applying set-off and carryforward provisions, making informed decisions to optimize tax outcomes and comply with legal requirements.</li> <li>CO5: It provides students the knowledge and skills necessary to navigate the appellate process, understand the legal implications of offenses and penalties, and make informed decisions in the realm of income tax laws.</li> </ul>
Statistical Analysis	<ul> <li>CO1: To be equipped with the tools of processing and description of statistical data and interpret measures of Descriptive and inferential statistics for Classification and tabulation.</li> <li>CO2: We can find some fantastic conclusion on the basis of primary and secondary data and on that basis Government sector and private sector formulate own economic policies.</li> <li>CO3: To enable students to associate and interpret data variability and asymmetry, and analyse the relationship between variables, enhancing their ability to make informed business decisions.</li> <li>CO4: Probability theory which helps to decision-forecasting for policymakers towards particular economic events.</li> <li>CO5: To be acquainted with the techniques of normal distribution.</li> </ul>
Corporate Legel Framework	The objective of this course is providing knowledge of provisions of various laws influencing business operations. <b>CO1:</b> Recalling the Companies Act, 1956, its definition, its types and formation company under the act,1956. Stating the necessary documents required for the formation of the companies: Memorandum of Association, Articles of association, Prospectus. Define share capital and classification of share capital. <b>CO2:</b> Explanation of the meetings and resolution. Need for mentioning the details of Managerial remuneration, Winding up and dissolution of the company.

M.Com. – I Sem.	
Paper	Course Outcomes
	CO3: Define Negotiable instruments Act, 1881. Classification of the types of
	negotiable instruments, the Holder, the issuer, Payment in due course
	<b>CO4:</b> Explanation of Endorsement and crossing of cheque and presentation of
	negotiable instrument
	<b>CO5:</b> Interpreting and analysis of legal environment for security markets: SEBI
	Act 1992- its organization and objects.

M.Com. – II Sem.	
Paper	Course Outcome
Business Economics	<ul> <li>CO1: To Explain Cost Theory and Estimation, economic value analysis, short and long run cost functions- their nature, shape and inter-relationship, Law of variable proportions -Law of returns to scale.</li> <li>CO2: Analysis of Price Determination under Different Market Conditions: Characteristics of different market structures; Price determination and firm's equilibrium in short-run and long-run under perfect competition, monopolistic competition, oligopoly and monopoly,</li> <li>CO3: Explaining Pricing Practices: Methods of price determination in practice, pricing of multiple products, price discrimination, international price discrimination and dumping: Transfer pricing.</li> <li>CO4: To explain Business Cycles: Nature and phases of la business cycle; Theories of business cycles- psychological, profit, monetary, innovation, cobweb, Samuelson and Hicks theories.</li> <li>CO5: Define Inflation: Definition, Characteristics and types; Inflation in terms of demand pull and cost push factors. Effects of inflation</li> </ul>
Specialized Accounting	<ul> <li>CO1: To able to explain and conclude Accounts of General Insurance Companies.</li> <li>CO2: To able to explain and conclude Accounts of Banking Companies.</li> <li>CO3: To recognize and illustrate Accounts of Public Utility concerns: Double Accounts System.</li> <li>CO4: To analyse, assess and explain Royalty Accounts.</li> <li>CO5: To analyse, assess and explain Investment accounts.</li> </ul>
Tax Planning and Management	<ul> <li>CO1: Explained and determined taxable income and tax of Firm and Companies.</li> <li>CO2: Illustrated and explained the students return of income, expert and emergency assessment, re-opening assessment.</li> <li>CO3: Explain the student's concept of Tax Planning, Tax avoidance and Tax evasions and their differences</li> <li>CO4: Determined and illustrated the students regarding Tax Planning to Capital structure and dividend Policy.</li> </ul>

M.Com. – II Sem.	
Paper	Course Outcome
	<b>CO5:</b> Explained how to file income tax returns, Computation of Income Tax, TDS and Advance Tax
Advanced Statistics	<ul> <li>CO1: The fundamental principles of decision making under uncertainty, learning concepts such as loss functions, decision rules, and the trade-offs involved in decision making.</li> <li>CO2: Knowledge about various estimation techniques, including point estimation and interval estimation. To estimate parameters in statistical models, understand the properties of estimators, and verify their accuracy.</li> <li>CO3: Demonstrate the relationship or association between different attributes or variables. Techniques to measure associations such as correlation coefficients, contingency tables, and chi- square tests, and the dependence or independence of variables.</li> <li>CO4: Exemplify control charts, process capability analysis, sampling techniques, and method to ensure and improve quality standards.</li> <li>CO5: Differentiate interpolation methods and extrapolation techniques to make informed predictions and decisions based on available data.</li> </ul>
Business Laws	<ul> <li>CO1: To interpret the SEBI Act-1992: Organization and objective of SEBI, Functions and Role of SERT Rights and Power of SEBI.</li> <li>CO2: Interpretation of NRTF Act 1969: Monopolistic Trade Practice Huning, essentials, Restrictive Trade Practices, Unfair trade practice, MRIP commission offences and Penalties.</li> <li>CO3: Interpreting Consumer Protection Act 1986: Needs of Act, Rights of consumers, Objectives of Act. To define Grievance redressal Machinery, District Forum, State Commission, National Commission.</li> <li>CO4: Interpretation of the FEMA Act 1999: Objectives; Regulation and Management of FEMA, Penalties Appeal.</li> <li>CO5: To define W.T.O – Its History, Objectives, functions and Organization. Analysing WTO and India, Regional groupings, anti-dumping duties and other NIBs. Explaining the Doha declaration, Dispute settlement system, TRIF, TRIMS and GATS.</li> </ul>

M.Com. – III Sem.	
Paper	Course Outcome
Management Concept	<ul> <li>The objective of this course is to help student understand and conceptual framework of management and organizational behaviour by explaining:</li> <li>CO1: The mutual relations of scientific and human management and both are compulsory for the success of organization.</li> <li>CO2: The managerial functions and theories which helpful not only to achieve the desire goal of the firm but also in daily life applications.</li> <li>CO3: The managerial functions and theories of staffing, directing, coordinating and controlling.</li> <li>CO4: Justify the motivation adopted by the management according to the competency and interest of an employee.</li> <li>CO5: Transform social process by which people interact and behave in a group environment in an organization which involves the influence of personality, power, and behaviour on the group process.</li> </ul>
<b>Organizational</b> behaviour	The purpose of this course is to provide students a clear understanding of the structure and working of an organization. It also provides them the knowledge about the crucial areas that cannot be ignored to lead a successful organization. This course is to help student to understand the conceptual frame work of management and Organizational Behaviour, to apply it on their day-to-day commercial life. <b>CO1:</b> Define the concept and significance of organizational behaviour. Stating the relationship between management and organizational behaviour. Identification of the significance of perception, Attitudes, Learning, Personality, Transactional analysis in understanding organizational behaviour. <b>CO2:</b> Define concept of leadership and its theories: Trait theory, behavioural theory, Fielder's contingency theory, Harsey and Blanchard's situational theory. Interpreting the managerial grid and its use <b>CO3:</b> Recognizing the dynamics and management, its sources, patterns and levels. Description of the types of conflicts and measures taken to resolve the conflicts. Classification of Traditional and modern approaches to conflicts.

M.Com. – III Sem.	
Paper	Course Outcome
	<b>CO4:</b> Define interpersonal and organizational communication. Explanation of the two-way process of communication. Identification of barriers to effective communication and application of various approaches to eliminate the barriers. <b>CO5:</b> Define the concept of organizational development. Recognizing the importance of change and the involvement to resistance with change. Explanation of theories of planned change.
Advanced Cost Accounting	<ul> <li>CO1: To define the concept of cost analysis, material Control and its techniques.</li> <li>CO2: Computation of Labor cost and control. To illustrate the accounting and control for Overheads.</li> <li>CO3: Interpretation of Job, Batch, Contract Costing and Operating costing.</li> <li>CO4: Process Costing, Joint product and by product costing. Differentiating Uniform costing and Estimate Costing.</li> <li>CO5: To explain the concept of Budgetary control. Preparation of zero-base budgeting, performance budgeting. Preparation of Cash Budget, Production and sales budget.</li> </ul>
Management Accounting	<ul> <li>CO1: To interpret the accounting concepts, tools and techniques for managerial decisions. Distinguish between Financial accounting, Cost accounting and Management accounting.</li> <li>CO2: To define the Accounting Plan and Responsibility centres.</li> <li>CO3: To define the concept of Budgeting. Classification of the Fixed and Flexible Budget.</li> <li>CO4: To define the concept of Standard costing and its application and exemplifying Variance analysis.</li> <li>CO5: To define the concept of Marginal costing as a tool for Decision making. Differentiation between Marginal costing and Direct costing.</li> </ul>
Accounting for Managerial Decision	<ul> <li>CO1: It involves the utilization of financial information to aid in strategic decision making and planning within an organisation, change in cost, volume, profitability and BEP.</li> <li>CO2: It helps students to interpret variances which refer to deviations between actual and standard costs.</li> </ul>

M.Com. – III Sem.	
Paper	Course Outcome
	CO3: Concept of marginal costing and absorption costing
	CO4: Analysing financial statements, performance metrics, and using
	accounting information to make informed decisions that align with organizational goals.
	<b>CO5:</b> Justify Contemporary issues in management, value chain analysis, activity-based costing, life cycle coasting.

M.Com. – IV Sem.		
Paper	Course Outcome	
Principle of Marketing	<ul> <li>The Objective of this course is to help students to understand the concept of marketing and its applications.</li> <li>CO1: Define marketing its scope and nature. Explanation of concepts of marketing. Interpretation of evolution of marketing and marketing mix. Identification and application of marketing strategies.</li> <li>CO2: Enables to comprehend and analyse the marketing environment. Differentiate between macro and micro components of environment. Recognizing the importance of consumer behaviour in marketing planning. It also stresses on importance of market segmentation and positioning.</li> <li>CO3: To define concept of product, Product cycle and its various stages. Classification of products. Describing the major product decisions and its importance.</li> <li>CO4: Stating the importance of pricing decisions, factors affecting. Interpretation of pricing policies and strategies.</li> <li>CO5: Identification and selection of distribution channels and Physical distribution. Classification of physical distribution channels and factors affecting it. Explanation of physical distribution channels.</li> </ul>	
Advertising and sales management	<ul> <li>CO1: Define Advertising, its concept, scope, objectives and functions. Interpretation of the role of advertising in marketing mix and its process along with its legal, ethical and social aspects.</li> <li>CO2: Recognizing the pre-launch advertising decision: Determination of target audience, Advertising Media and their choice. Stating the importance of advertising messages, Layout of advertisement and Advertising Appeal, Advertising Copy.</li> <li>CO3: Define the Promotional Management which includes Advertising Department, Role of Advertising Agencies, their Selection, Advertising Budget, Evaluation of Advertising Effectiveness.</li> </ul>	

M.Com. – IV Sem.		
Paper	Course Outcome	
	<ul> <li>CO4: Define Personal Selling its meaning and importance. Differentiate between Personal Selling. Advertising and Sales Promotion. Interpretation of application of methods and Procedure of Personal Selling.</li> <li>CO5: Define Sales Management its concept, Objectives and Functions. Sales Organization, Management of Sales force and Sales force objectives, Sales force Recruitment Selection, Training, Compensation and Evaluation.</li> </ul>	
Marketing Research	<ul> <li>CO1: Define Marketing Research: An Introduction; Marketing Decisions; Marketing Research and Information System. explain relationship and differences between marketing research and marketing information systems.</li> <li>CO2: Interpretation of Marketing Research Methodology, Research Design.</li> <li>CO3: Exemplifying Organization of Marketing Research. Specialized areas of application of marketing research.</li> <li>CO4: Analysis of Specialized Techniques of Marketing Research. Explaining Motivation Research.</li> <li>CO5: Execute Advertising Research: Planning and Procedure, New Product Research.</li> </ul>	
International Marketing	This course aims at acquainting student with the operations of marketing in international environment. <b>CO1:</b> Define International Marketing its scope and nature. Differentiate between domestic and international marketing. Analysis of internal and external international environment. Identification and selection of the foreign market. <b>CO2:</b> Analysis of various entry modes available in foreign market. Define the concept of international Product planning, designing. Differentiate between standardization and adaptation. <b>CO3:</b> Define the product quality issues and after sales services. Explanation of international price quotation, payment terms and methods of payment <b>CO4:</b> Promotion of goods & services and method of international promotion. Stating importance of international promotional activities, Logistic decisions. Identification and selection of international distribution channels and logistics decision. Selection and appointment of foreign sales agent.	

M.Com. – IV Sem.		
Paper	Course Outcome	
	<b>CO5:</b> Explanation of export policy and its practices in India. Determining the steps involved in export business. Identification of trends in India's foreign trade and importance of finance, documentation and procedures involved.	



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# Department of Management

# Course Outcome

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#### **DEPARTMENT OF MANAGEMENT**

Bachelor of Business Administration (BBA) popularly known as BBA is one of the most sought-after bachelor's degree programmes pursued by students after Class 12. The BBA course is the gateway to a plethora of job opportunities in numerous sectors such as Sales, Marketing, Education, Finance, Sales, and Government to name a few. The demand for BBA courses is rising continuously among students as it provides them with a deep understanding of the management skills required to run a business or organization successfully. It also helps one think more clearly about the different phases and business-running techniques.

BBA is a three-year professional undergraduate course in Business Management The course is open to students from all three streams i.e., Science, Arts, and Commerce. The BBA course offers knowledge and training in management and leadership skills to prepare them for managerial roles and entrepreneurship.

#### VISION

To lead in management education through a focus on holistic development of students.

#### **MISSION**

Empowering students through rigorous education for ethical management innovation, excellence & transformative impact on society.

#### **Department of Management** Course Outcome for B.B.A.

BBA – I Sem.		
Paper	Course Outcomes	
English	<ul> <li>CO1: To contrast the value of English grammar in effective communication and to use the correct form of tenses.</li> <li>CO2: To develop the ability to read &amp; write by illustrating them the skills of writing.</li> <li>CO3: To identify the different structures of sentences &amp; Priorities them according to the need of communication</li> <li>CO4: To teach the extract of multi diversity in language by using voice and narration.</li> <li>CO5: To write and reframe the complete structural details of paragraph writing and becoming able to read more effectively.</li> </ul>	
<b>Computer</b> <b>Applications</b>	<ul> <li>CO1: Acquire fundamental knowledge of computers in basic management skills and business applications. Develop a sound academic base for an advanced career in Computer Applications.</li> <li>CO2: The purpose of the course is to define principles of computer organization and the basic architectural concepts. It begins with basic organization, design, and programming of a simple digital computer and explains simple register transfer language to specify various computer operations.</li> <li>CO3: At the end of this lesson, students Assess: Define storage State the types and functions of storage – primary storage RAM ROM – secondary storage magnetic medium optical medium flash memory</li> <li>CO4: Select basic editing functions, formatting text, copy and moving objects and text. Construct the basic mechanics and navigation of an Excel spread sheets. Learning to modify presentation themes. Analysing formatting techniques and presentation styles</li> <li>CO5: The specific things you'll learn in this section include the following: Defining Internet: E-mail, Search Engines, Info-Savvy Skills; Digital Age</li> </ul>	

BBA – I Sem.		
Paper	Course Outcomes	
Business Mathematics	<ul> <li>Skills, safe surfing mode. Internet resources for different disciplines like natural sciences, social sciences, Humanities and General Introduction to E-leaning, Mobile-learning, distance learning, On-line learning;</li> <li>Apply fundamental knowledge to formulate and analyse different uses of internet.</li> <li>CO1: Perform matrix operations and solve the matrix equation using elementary matrix operations.</li> <li>CO2: Illustrate Linear Programming and their solution by Graphical method.</li> <li>CO3: Illustrate to solve a pair of equations simultaneously using different methods, and know about indices and understand logarithms.</li> <li>CO4: To perform with simple ratios, convert between fractions, decimals and percentages, find percentages of different quantities and calculate percentage increases and decreases.</li> <li>CO5: Calculate one-time simple interest and simple interest over time,</li> </ul>	
Principles of Management	<ul> <li>compound interest</li> <li>CO1: Define the concept of management. Recall the nature and scope of management. List the responsibilities of managers. Summarize the key management thoughts of Fayol, Taylor, and Elton Mayo. Describe the various functions of management.</li> <li>CO2: Apply the characteristics of planning in a practical scenario. Demonstrate the steps involved in the planning process. Develop different types of plans. Formulate objectives, strategies, and policies. Assess the benefits and limitations of planning. Evaluate the effectiveness of Management by Objectives (MBO) in achieving organizational goals.</li> <li>CO3: Describe the principles of organization. Analyse different methods of depart mentation. Differentiate between centralization and decentralization. Examine various forms of organization.</li> <li>CO4: Analyse the features of decision-making. Examine the role of decision-making in the management process. Classify different types of managerial</li> </ul>	
BBA – I Sem.		
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Paper	Course Outcomes	
	<ul> <li>decisions. Evaluate decision-making techniques. Assess the principles guiding effective decision-making.</li> <li>CO5: Apply different types of control measures in real-world situations. Implement the process of control in organizational contexts. Utilize budgetary control, performance budgeting, and zero-based budgeting. Evaluate the role and significance of management audit. Assess the overview of network techniques – PERT &amp; CPM in project management.</li> </ul>	
Financial Accounting	<ul> <li>CO1: To define the various terms used in accounting system. To give an insight into the basics of accounting concepts and principles to prepare to students to have the foot hold in accounts.</li> <li>CO2: To generate ledger accounts using double entry bookkeeping and record journal entries accordingly.</li> <li>CO3: Organizing and interpreting the implications of financial statement information.</li> <li>CO4: To generate accounting information for planning and control and for the evaluation of finance.</li> <li>CO5: To identify the cost of a tangible asset over its useful life.</li> </ul>	

BBA – II Sem.	
Paper	Course Outcome
	CO1: पल्लवन, अनुवाद, पत्राचार एवं कहानी को स्पश्ट कर सकेंगे।
	CO2: अशुद्धियों का वर्गीकरण एवं कविता की व्याख्या कर सकेंगे।
	CO3: देवनागरी के अन्य नामों का उल्लेख एवं अपठित गद्यांष से भाषा की
हिन्दी भाषा	क्षमता का विकास कर सकेंगे।
	CO4: कम्प्यूटर और भाषा के बीच द्विभाशात्मक सम्बंध स्पश्ट कर सकेंगे।
	CO5: भाषा के विभिन्न रुपों का वर्णन एवं आधुनिकीकरण की प्रक्रिया की
	विवेचना कर सकेंगे।
	CO1: Elasticity of Demand Remember: Recall the concept and measurement of
	Elasticity of Demand. Comprehend the importance of elasticity of demand.
	CO2: Analyse the law of variable proportion in production. Apply the concepts
	of iso-quant, economics region, and optimum factor combination. Analyse:
	Examine the theory of costs using both traditional and modern approaches.
	CO3: Identify the objectives of a business firm in relation to market structure.
	Analyse profit maximization and equilibrium of a firm in perfect competition.
	Apply the principles of price and output determination in perfect competition.
	Compare and contrast perfect competition and monopoly. Apply the concept of
<b>Business Economics</b>	price discrimination in monopoly.
	CO4: Describe the characteristics of monopolistic competition. Apply the
	principles of price and output determination under monopolistic competition.
	Analyse the characteristics and pricing strategies in oligopoly. Analyse:
	Evaluate classical models of oligopoly, such as the kinked demand curve.
	<b>CO5</b> : Comprehend Marginal Productivity theory and its role in determining
	of wage rate determination under perfect compatition and monopoly. Evoluate
	the exploitation of labour in factor pricing. Analyse the concepts and theories of
	interest & profit in factor pricing.
	<b>CO1:</b> Recognize the concept, scope and limitations of statistics.
<b>Business Statistics</b>	CO2: Understand the concept of central tendencies and its examples.
	<b>CO3:</b> Illustrate the concept of measure of variation and its examples.

BBA – II Sem.	
Paper	Course Outcome
	<b>CO4:</b> To demonstrate the concept of correlation analysis and its examples.
	<b>CO5:</b> Evaluate the concept and properties of index number.
Cost Accounting	<ul> <li>CO1: It provides awareness of the Cost Accounting Concept and its significance in the context of business operations and decision-making.</li> <li>CO2: It gives and overview to understand and analyse the different elements of cost in detail for the clear understanding for the students.</li> <li>CO3: It will help the students to understand the concept of Stores Ledger, Unit Costing, Labor costing and Machine Hour Rate for developing their costing related concept.</li> <li>CO4: Under this Unit the students are going to learn about the Contract Costing, Process Costing which is an essential part of every organization and</li> </ul>
	<ul><li>management students' life.</li><li>CO5: The objective of this chapter is to provide learning for Variances of labour and Material along with the concept of flexible Budget.</li></ul>
Environmental Studies	<ul> <li>CO1: Defining the fundamental principles underlying environmental studies and the critical role of natural resources in sustaining life on Earth.</li> <li>CO2: Discover the intricate relationships within ecosystems, focusing on food chains and webs, as well as ecological pyramids.</li> <li>CO3: Illustrate the threats faced by diverse ecosystems, the importance of conservation measures, and the role of individuals and communities in safeguarding our planet's rich biological heritage.</li> <li>CO4: Contribute to sustainable practices, advocate for pollution reduction, and actively participate in disaster response and recovery efforts.</li> <li>CO5: Determine the legal mechanisms in place, particularly the Environment Protection Act, and be prepared to engage in discussions, advocacy, and initiatives that promote sustainable and socially just environmental practices.</li> </ul>

BBA – III Sem.	
Paper	Course Outcome
Managerial Economics	<ul><li>CO1: Define the meaning, nature, scope, and importance of managerial economic and analyse the scope of managerial economics in influencing strategic business decisions.</li><li>CO2: Define the concepts of business cycles and national income and assess the impact of business cycles on economic stability and the factors influencing national income.</li></ul>
	<b>CO3:</b> Recall and define the concept of profit and its significance in business operations and explain the various theories of profit, including risk-bearing, innovation, and differential profit.
	<b>CO4:</b> Recall and define the principles of capital budgeting and investment decisions under certainty and uncertainty and assess the advantages and limitations of capital budgeting techniques in the context of certain investment decisions
	<b>CO5:</b> Recall and define the concept of cost of capital, encompassing various sources such as equity, debt, and retained earnings.
<b>Business</b> <b>Communication</b>	<ul> <li>CO1: To summarize the principles and components of effective business communication and various communication models and processes.</li> <li>CO2: To critically analyse the impact of formal and informal communication network on organizational effectiveness by examining the advantages and disadvantages of different channels and networks and identifying areas of improvement.</li> </ul>
	<ul><li>CO3: To identify ways to overcome barriers and enhance non -verbal communication skills in order to improve overall communication effectiveness.</li><li>CO4: To interpret and summarize the complex business documents such as reports and business letters by applying critical reading skills and understanding the key message and ideas conveyed.</li></ul>
	<b>CO5:</b> To develop communication skills through oral presentation and construct their Resume and cover letter.

BBA – III Sem.	
Paper	Course Outcome
Business Law	<ul> <li>CO1: Defining the process of company formation, including the types of companies, memorandum and articles of association, and the legal requirements for incorporation.</li> <li>CO2: Formulating the concept of a partnership, its formation, rights, and liabilities of partners, and its legal status. Defining negotiable instruments, including promissory notes, bills of exchange, and cheques, and explain their significance in commercial transactions.</li> <li>CO3: Defining and analysing the fundamental concepts of contracts, including the definition of a contract, the essential elements of a contract, and the distinction between contracts and agreements.</li> <li>CO4: Analysing the fundamental principles of consumer rights and protection, and the structure and functions of consumer dispute redressal forums.</li> <li>CO5: Defining the legal and practical aspects of labour relations, workers'</li> </ul>
	rights, and employer responsibilities.
Business and Environment	<b>CO1:</b> It establishes awareness of the Indian business environment and understands its significance in the context of business operations and decision-making.
	how these trends impact various aspects of the business environment, including income, savings, and investment.
	<b>CO3:</b> It analyses the major challenges and problems associated with economic growth in India, including unemployment, poverty, regional imbalances, social injustice, inflation, and the parallel economy.
	<ul><li>CO4: It discusses the understanding about the government in shaping the economic landscape of India through monetary and fiscal policy.</li><li>CO5: It recognizes the importance of international cooperation and</li></ul>
	collaboration in addressing global economic issues and promoting sustainable development.

BBA – III Sem.	
Paper	Course Outcome
Management Information System (MIS)	<ul> <li>CO1: It defines the fundamental of the Information system concept and analysing its significance in today's management and business era in context with decision making and business management.</li> <li>CO2: It gives an overview and synthesize and analyse the identify the structures of the management information system and effectively communicate with the society with all the ethical elements of it in the environment and will learn in lifelong learning basis and system view for business.</li> <li>CO3: It will help the students to analyse and evaluate and to construct a solution for complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions as their fundamental knowledge.</li> <li>CO4: Define and listing of what a manager should be able to expect from an IT department in an organizational environment. To construct a business case for IT, addressing key IT acquisition decisions in the society.</li> <li>CO5: To explain the students so that they can define the various knowledge representation methods and different expert system structures as strategic ordnances to counter the threats to business and make business more competitive</li> </ul>
Management Information System (MIS)	<ul><li>IT, addressing key IT acquisition decisions in the society.</li><li>CO5: To explain the students so that they can define the various know representation methods and different expert system structures as strated ordnances to counter the threats to business and make business more compared in today's business environment.</li></ul>

BBA – IV Sem.	
Paper	Course Outcome
Organizational Behaviour	<ul> <li>CO1: To define key concepts and theories related to Organizational Behaviour.</li> <li>CO2: To explain the impact of Organizational Behaviour on employee motivation and job satisfaction.</li> <li>CO3: To evaluate the effectiveness of Leadership styles in different organizational setting.</li> <li>CO4: To critically analyse and recommend changes to improve organizational behaviour and performance.</li> <li>CO5: To assess the impact of Organizational behaviour interventions on employee morale and job performance.</li> </ul>
Marketing Management	<ul> <li>CO1: It Apply knowledge of consumer behaviour to real-world marketing scenarios and Relate marketing concepts to decision-making processes in buying.</li> <li>CO2: It Explain the importance of targeting in marketing and describe the concept and importance of position.</li> <li>CO3: It Develop product decisions based on market analysis. And formulate a comprehensive marketing mix for a given product.</li> <li>CO4: It Explain the role of pricing in marketing and Describe channels of distribution and marketing channels.</li> <li>CO5: It Design and conduct marketing research projects and implement a marketing information system for a given organization.</li> </ul>
HRM	<ul> <li>CO1: Recall and articulate the fundamental concepts of HRM, including its definition, key functions, and primary objectives.</li> <li>CO2: Define HRP and recall its significance in organizational planning and to develop comprehensive HRP strategies integrating recruitment, training, and succession planning to meet organizational needs.</li> <li>CO3: Define key concepts and principles in training and development and analyse the effectiveness of different training delivery methods and evaluate the impact of training programs on organizational performance.</li> </ul>

BBA – IV Sem.	
Paper	Course Outcome
	<ul> <li>CO4: Define and recall fundamental concepts related to compensation and reward systems and analyse the relationship between performance and rewards. Evaluate the impact of different compensation structures on employee motivation.</li> <li>CO5: Define HRIS and list its primary functions in human resource management. Recall key features and components of HRIS software. Explain the role of collective bargaining in labour relations. Summarize the steps involved in the collective bargaining process.</li> </ul>
Financial Management	<ul> <li>CO1: To define the various terms used in Financial Management. Demonstrate the basics of financial concepts and principles.</li> <li>CO2: Analyse financial statements to evaluate the financial health and performance of a business and develop financial plans and forecasts to guide organizational decision – making and goal attainment.</li> <li>CO3: Assess the relationship between risk and return in financial decision – making.</li> <li>CO4: Apply techniques for evaluating and selecting investment projects, considering factors like payback period, net present values and internal rate of return.</li> <li>CO5: Manage short-term assets and liabilities effectively to ensure the liquidity and profitability of a business. Recognize and address ethical issues related to financial management.</li> </ul>
Production Management	<ul> <li>CO1: To Illustrate the knowledge about the basic concept, techniques &amp; Methods of production method.</li> <li>CO2: To Design Continuous and Intermittent Production System.</li> <li>CO3: To Articulate Aggregate Planning, Capacity Planning, Material Requirement Planning, Just in Time Manufacturing (JIT) management techniques &amp; other Management.</li> <li>CO4: To Teach the Value of Quality Control &amp; TQM in modern production Management and production Era.</li> <li>CO5: To Conclude &amp; Categories objectives and techniques of time study &amp; Motion Study.</li> </ul>

BBA – V Sem.	
Paper	Course Outcome
Marketing Research	<ul> <li>CO1: It states the fundamental concepts of marketing research, including its purpose, scope, and importance in the business decision-making process.</li> <li>CO2: It analyses the evolving landscape of marketing research management, keeping up with emerging research methods, technologies, and ethical considerations in the field.</li> <li>CO3: It predicts awareness on emerging trends and technologies in data collection, such as online surveys, mobile data collection, and computer-assisted interviewing.</li> <li>CO4: It associates the statistical tools and software for data analysis and hypothesis testing, such as SPSS, R, or Excel, and interprets the results in the context of research objectives.</li> <li>CO5: It recognizes emerging trends and technologies in marketing research,</li> </ul>
Quantitative Techniques	<ul> <li>especially in the areas of data analytics, digital marketing, and consumer behaviour research.</li> <li>CO1: Recognize the meaning of variables, functions, and related examples.</li> <li>CO2: Understand the concept of calculus and its examples.</li> <li>CO3: Illustrate the concept of probability and its examples.</li> <li>CO4: Understand the concept and properties of sampling.</li> <li>CO5: Recognize the concept of linear programming problem and its examples.</li> </ul>
Sales and Advertisement Management	<ul> <li>CO1: Define the nature and scope and to identify the key elements and functions involved in sales management.</li> <li>CO2: To explore recruitment, selection and motivational theories and their applicability to the sales environment and to analyse how different motivational factors influence sales performance.</li> <li>CO3: Define and explain the fundamental concepts and advertising, media planning and campaign planning and to analyse the role of advertising in the overall marketing mix.</li> </ul>

BBA – V Sem.	
Paper	Course Outcome
	<ul> <li>CO4: Generate original and effective advertisements by applying the principles of copywriting, logo design, slogan creation, and illustration in a creative and innovative manner.</li> <li>CO5: Analyse different advertising appeals and their impact on target audiences &amp; assess the effectiveness of advertising campaigns through various evaluation methods.</li> </ul>
	<b>CO1:</b> It states the fundamental concepts of Investment, including its process, scope, and also defines process and most possible Avenues for making Investments.
Investment Management	<b>CO2:</b> It explains the categories or classification of financial markets both primary and secondary and helps in key decision making for investment.
	<b>CO3:</b> It defines valuation Methods of shares and bonds for effective decision making it conduct computation for evaluating intrinsic worth of security.
	<b>CO4:</b> It associates the techniques of fundamental and technical analysis with different tools and procedures to solve different problems.
	<b>CO5:</b> It recognizes and evaluate the management of portfolio and determine the best possible portfolio construction and evaluation.
	<b>CO1:</b> To define the basic concepts and principles of material management.
	<b>CO2:</b> To analyse the various objectives and importance of effective material
	management in achieving organizational goals.
Material Management	understanding the needs and functions of inventory control.
Wianagement	CO4: To apply cost management techniques to optimize material usage and
	demonstrate knowledge of quality control and inspection of materials.
	<b>CO5:</b> To assess the importance and significance of Capital Budgeting in the field of Material Management.

BBA – VI Sem.	
Paper	Course Outcome
	<b>CO1:</b> To analyse the concept of strategic intent the various terms used in strategy Policy. To Illustrate the basics of strategy and policy concepts and principles.
	<b>CO2:</b> Analysing Environment by different tools like SWOT and perform planning accordingly& classify different factors to analyse the Environment.
Business Policy and Strategy	<b>CO3:</b> Formulating strategies and defining types of strategies with proper classification the implications of Strategy and Policy information.
	<b>CO4:</b> Analysis of strategy formulation and implementation of Strategy and performing control measures on that.
	<b>CO5:</b> Evaluating the strategies identifying the problems and resolving them monitoring essential requirement of strategic management process.
Entrepreneurship and Small Business Management	<b>CO1:</b> To Define entrepreneurship, characteristics of an entrepreneur, Which Traces the historical emergence of the entrepreneurial class.
	<ul><li>CO2: To Summarize the impact of economic, social, and technological factors on a new venture and explain the competitive factors influencing a new business.</li><li>CO3: To Define innovation and its role in entrepreneurship and</li></ul>
	<ul><li>explain the concept of entrepreneurial behaviour.</li><li>CO4: To Summarize the impact of EDPs on entrepreneurial development and analyse the role of the government in organizing EDPs.</li></ul>
	<b>CO5:</b> To Develop strategies for promoting the growth of SSIs and Evaluate the economic impact of SSIs on local communities.
<b>Business Taxation</b>	<b>CO1:</b> Students can understand Income Tax system properly, and can get the knowledge of different tax provisions. Basic concepts regarding Assesses, Assessment Year, Previous Year, Person, Gross Total Income, Total income, Residential Status and Exempted Income.
	<b>CO2:</b> To acquaint students on calculation of Taxable Income under the head salaries and house properties.

BBA – VI Sem.	
Paper	Course Outcome
	<ul> <li>CO3: To acquaint students on calculation of Taxable Income under the head profits and gains under the head business or profession and capital gain and income from other sources.</li> <li>CO4: To provide knowledge about Clubbing, standard deductions under section 80C to 80U, set-off and carry forward of losses and computation of total income.</li> <li>CO5: To give knowledge about preparation of Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection, appeal and penalties.</li> </ul>
Business Ethics and Social Responsibility	<ul> <li>CO1: It Define the objectives of business and recall the key attitudes, beliefs, and values in a business context.</li> <li>CO2: It Apply tools of social responsibility to address specific social issues. Formulate strategies for businesses to enhance social responsiveness.</li> <li>CO3: It Define ethical theories in business and recall the mission of an enterprise.</li> <li>CO4: It Explain the features and benefits of social audit. And describe different approaches to social audit.</li> <li>CO5: It Analyse the impact of business decisions on shareholders, consumers, government, and the community.</li> </ul>



Aff.: Pt. Ravishankar Shukla University, Raipur (C.G.) and recognized under section 2(f) of the UGC Act. 1956) Under the aegis of Disha Education Society

# Department of Computer Science



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# **DEPARTMENT OF COMPUTER SCIENCE**

The full form of BCA is Bachelor's in Computer Application. BCA is a 3-year undergraduate degree programme that focuses on knowledge of the basics of computer application and software development. The degree helps interested students in setting up a sound academic base for an advanced career in Computer Applications. The course of BCA includes database management systems, operating systems, software engineering, web technology and languages such as C, C++, HTML, Java etc. A BCA graduate has scope in jobs such as Software Engineer, Web Designer and System Analyst.

MSc Computer Science is a two-year post-graduation program with the objective to develop advanced programming skills and strategies to solve various logical challenges using different programming languages. MSc Computer Science or MSc CS focuses more on developing software and networking-based skills.

Post Graduate Diploma in Computer Application (PGDCA) is a 1 year (with two semesters) postgraduate course which extensively deals with advanced theoretical and practical knowledge of Computer Science and computer applications in the field of Information Technologies.

### VISION

The Department of Computer Science at Disha College envisions a dynamic and inclusive learning environment that fosters creativity, innovation, and excellence in computer science education.

### **MISSION**

The mission of the Department of Computer Science at Disha College is to provide a comprehensive and rigorous education that equips students with the skills, knowledge, and ethical mindset needed to excel in the dynamic field of computer science.

We are committed to fostering a learning environment that promotes critical thinking, innovation, and a passion for lifelong learning.

# Department of Computer Science Course Outcome for B.C.A.

BCA – I	
Paper	Course Outcomes
	<b>CO1:</b> Develop analytical ability to solve real-world problems using these methodologies.
Discrata	<b>CO2:</b> Develop to actively construct mathematical arguments on this topic.
Mathematics	<b>CO3:</b> Demonstrate the ability to write and evaluate a proof or outline the basic
	structure of and give examples of each proof technique described.
	<b>CO4:</b> Demonstrate different traversal methods for trees and graphs.
	<b>CO5:</b> Explain model problems in Computer Science using graphs and trees.
Computer Fundamentals	<ul> <li>CO1: Explain fundamental concept, characteristics and capabilities of computer system and classify its type. And learn concept and solve problems related to number system and Codes.</li> <li>CO2: Describe peripheral devices, its type and understand working process of each I/ O device.</li> <li>CO3: List the details of Microprocessor components and other internal hardware parts like different type of storage devices, bus, register etc.</li> <li>CO4: Describe software and its type also Learn about different computer language, its translators, flowchart and algorithm.</li> <li>CO5: Introduction about different operating system and comparisons among various versions of Windows operating system.</li> </ul>
Programming in 'C' Language	<ul> <li>CO1: Explain the fundamental concepts of C programming, explain variables, data types, operators and formatted / unformatted I/O functions.</li> <li>CO2: Classify conditional statements, loops, and branching mechanisms to control the flow of program execution. Define and explain functions to illustrate modularity and code reusability.</li> </ul>

BCA – I	
Paper	Course Outcomes
	<b>CO3:</b> Explain C data structures, such as arrays, structures, and unions, and differentiate them effectively.
	<b>CO4:</b> Explain pointers to manipulate memory addresses and define the implications of memory allocation.
	<b>CO5:</b> Demonstrate read from and write to files, construct programs that interact with external data sources.
	<b>CO1:</b> Explain The basic technicalities of creating word document for office use <b>CO2:</b> Analyse Data in Spreadsheet for general office tasks.
PC Software and Multimedia	<b>CO3:</b> Demonstrate the basic technicalities of creating power point presentation
Wutthiteuta	CO4: To Generate & Implement the data base using MS-Access
	<b>CO5:</b> To Create 2D animation using flash.
	CO1: Explain the internet-related concepts that are necessary for web
	development.
	CO2: Illustrate the most important HTML tags for constructing static pages.
Web Technology and E-Commerce	CO3: Learn how to use a Cascading Style Sheet to create an interactive webpage.
	CO4: Build dynamic web pages using JavaScript.
	CO5: Analyse the impact of E-commerce on business models and strategy and
	aware of the ethical, social, and security issues of information systems.
	<b>CO1:</b> Teach the value of English grammar in effective communication & to
	articulate the correct form of tenses.
	<b>CO2:</b> Discover the ability to read & write by illustrating them the skills of
	CO3: Identify the different structures of sentences & correlate them according
Communication Skills	to the need of communication
	<b>CO4:</b> Reframe the extract of multi diversity in language by using voice &
	narration.
	CO5: Write and modify the complete structural details of paragraph writing and
	becoming able to read more effectively.

BCA – I	
Paper	Course Outcomes
Lab - I Programming in 'C'	<ul> <li>CO1: Write and execute the basic program of C language using fundamental concept like Input output function, header file, keywords etc.</li> <li>CO2: Apply all concepts of Control structure and Function.</li> <li>CO3: Learn to execute different operation on array and pointer.</li> <li>CO4: Compare the concept of structure and union through the program and execute programming constructs for problem solving.</li> <li>CO5: Use file handling function and dynamic memory allocation concept through program.</li> </ul>
Lab - II PC Software	<ul> <li>CO1: Access the basic word document options for office use.</li> <li>CO2: Analyse and Formulate the Data in Spreadsheet for general office.</li> <li>CO3: Constructing effective power point presentation.</li> <li>CO4: Design and construct the data base using MS-Access.</li> <li>CO5: Explain and Generate 2D Animation in Flash.</li> </ul>
Lab - III Web Technology	<ul> <li>CO1: Design and execute webpages.</li> <li>CO2: Construct Form like Registration form using html form control.</li> <li>CO3: Apply CSS to create an interactive webpage.</li> <li>CO4: Create a webpage using CSS.</li> <li>CO5: Construct dynamic webpage using Java Script.</li> </ul>

BCA – II	
Paper	Course Outcome
Calculus and Differential Equations	<ul> <li>CO1: Calculate the limit and examine the continuity and differentiability.</li> <li>CO2: Differentiate various functions as product and quotient functions, function of functions, parametric function, exponent functions and application of differentiation.</li> <li>CO3: Illustrate to integrate basic integral formula, trigonometric integrals, integration by part and integration by substitution.</li> <li>CO4: Define the concept of Definite integrals and their properties.</li> <li>CO5: Explain the concept of Differential equations and learn to find their solution.</li> </ul>
Database Management System	<ul> <li>CO1: Demonstrate basic concept of DBMS. Classify and compare different types of data models.</li> <li>CO2: Construct Entity-Relationship diagrams to represent simple database application scenarios. Illustrate the E-R Data Model into relational database.</li> <li>CO3: Classify Relational Algebra, Domain Relational Calculus and Tuple Relational Calculus concepts and formulate queries.</li> <li>CO4: Summarize the relational database design principles. Conduct normalization theory to the normalization of a database.</li> <li>CO5: Point out the basics of SQL and construct queries using SQL.</li> </ul>
Programming in 'C++'	<ul> <li>CO1: Explain and apply fundamental of programming concept in C++.</li> <li>CO2 Demonstrate functions, structures with passing different types of arguments.</li> <li>CO3: Construct and define classes, methods, and assessors, and instantiate objects.</li> <li>CO4: Illustrate C++ features such as composition of objects, Operator overloading, inheritance, Polymorphism etc.</li> <li>CO5: Classify concept of pointer, virtual function, pure virtual function etc.</li> </ul>
Computer Networks	<ul><li>CO1: Define the various network technologies and their applications.</li><li>CO2: Illustrate the Data Terminal Equipment and Data Communication Equipment Interface, their types &amp; working of Modem.</li></ul>

BCA – II	
Paper	Course Outcome
	CO3: Define the concept of theoretical open system interconnection reference
	model and working of their layers.
	<b>CO4</b> : Demonstrate the TCP/IP reference model and their different protocols.
	<b>CO5:</b> Explain the concept of computer network security.
	CO1: Learn the basic concepts of OS, evolution and its types.
	CO2: Explaining state of process while execute & various CPU Scheduling
	algorithm.
Operating System	<b>CO3:</b> Learn about the working of operating system as a resource manager.
	<b>CO4:</b> Identify and use UNIX/Linux utilities to create and manage simple file
	processing operations, organize directory structures with appropriate security.
	<b>CO5:</b> Implement shell scripts to perform more complex tasks.
	CO1: Articulate the importance of Indian Art & Art Forms.
	CO2: Extract the elementary knowledge of Vedic Era & Ancient Indian
	literature.
	CO3: Reframe & support the movements taken for independence struggle of
Foundation Course	India.
	CO4: Summaries & discuss the main Features of Indian. Constitution along
	with the importance of Fundamental rights.
	<b>CO5:</b> Explain the need of communication, Listening & Resume Writing.
	CO1: Explain and demonstrate, implementation and operations of Data type,
	control structure, loops etc.
	CO2: Illustrate and design user defined function, structure, passing argument
<b>.</b>	with different parameter
Lab - IV Programming in	CO3: Construct and design class and object, constructor destructor, static data
'C++'	member.
	CO4: Write programs to apply inheritance, polymorphism.
	<b>CO5</b> : Explain and discuss about operations of pointer, virtual class, virtual
	function etc.
Lab - V	CO1: Practical knowledge on designing and creating relational database
Database	systems.
wanagement System	

BCA – II	
Paper	Course Outcome
	CO2: Formulate queries using SQL DML/DDL/DCL commands
	<b>CO3:</b> Apply the normalization techniques.
	<b>CO4:</b> Design and implement a database schema for given problem.
	<b>CO5:</b> Apply the techniques for development of application.
	CO1: Practical knowledge about Linux shell environment & execute basic
Lab - VI Operating System	commands.
	<b>CO2:</b> Ability to work in vi editor using vi command & able edit existing file.
	CO3: Write shell programs for various tasks.

BCA – III	
Paper	Course Outcome
Statistical Analysis	<b>CO1</b> : Explain combinatorics and apply permutation and combination to solve specific problems and discuss binomial theorem and binomial coefficients.
	<b>CO2</b> : Define frequency distribution and explain different types of frequency distribution and their graphical representation, analyse statistical data using measures of central tendency, dispersion, skewness and kurtosis.
	<b>CO3</b> : Explain concept of probability and its importance, apply additive and multiplicative law of probability, describe different probability distribution and discuss mathematical expectation.
	<b>CO4</b> : Explain the concept of correlation and regression, explain and apply method of least square method for curve fitting. Define and apply Chi-Square test
	<b>CO5</b> : Discuss concept of sampling, apply test of hypotheses and explain its significance and explain Monte-Carlo method
	<b>CO1:</b> List and implement features of OOP that can help in solving real projects.
	<b>CO2:</b> Summarize the basic foundation of language by using different operators,
	control statements and arrays.
Programming in	<b>CO3:</b> Illustrate Java's distinct features to build application using various methods, classes, objects.
Java	<b>CO4:</b> Applying the robust features of language such as Exception handling, package etc.
	CO5: Demonstration of JDBC to provide a program level interface for
	communicating with database using java programming and creating multiple threads.
	<b>CO1:</b> Explain concept of Dot net framework, components of JIT compiler,
Dot Net Technology	<b>CO2:</b> Define datatypes and operators. Execute the console applications using vb.net.
	CO3: Design GUI app. using vb.net and apply data binding with GUI tools.

BCA – III	
Paper	Course Outcome
	CO4: Construct classes, methods, and assessors, and instantiate objects.
	<b>CO5:</b> Explain ADO.NET Architecture and its components, Construct database
	application, establish database connection.
	<b>CO1:</b> Demonstrate basics of software development process through various models.
	CO2: Define various system design approaches.
Software	<b>CO3:</b> Classify CASE tools and discuss recent trends and research in software engineering
Engineering	<b>CO4:</b> Explain various testing and debugging techniques and analysing their effectiveness. Define the basic concepts and importance of cost estimation, scheduling and reviewing the progress.
	<b>CO5:</b> Explain software development process management.
	<b>CO1:</b> Define and classify basic data structures such as array, linked list, stack, queue, tree and graph. Explain the concept of algorithm complexity and analyse algorithms for their efficiency.
	<b>CO2:</b> Define array data structure and write programs for array operations.
Data Structure	<b>CO3:</b> Explain linear data structures linked list, stack and queue and write programs for operations. Apply appropriate data structure to solve specific problems.
	<b>CO4:</b> Describe nonlinear data structure and write programs for their operations and applications.
	<b>CO5:</b> Analyse and compare various sorting and searching techniques. Explain the concept of hashing.
Computer System Architecture	<ul><li>CO1: Recall the number system, various computer codes and their uses.</li><li>CO2: Illustrate the formal procedure to design combinational circuit. Define the memory element of computer system.</li></ul>

BCA – III	
Paper	Course Outcome
	<ul> <li>CO3: Illustrate the functioning of CPU, Motherboard, SMPS and their internal units.</li> <li>CO4: Describe the Input-output organization and asynchronous data transfer mode.</li> <li>CO5: Discuss the working of different kind of memories in computer system</li> </ul>
Lab - VII: Programming in Java	<ul> <li>CO1: Demonstrate class and objects with data types and do operations on Strings and objects.</li> <li>CO2: Applying the programming fundamentals such as operators, arrays, control statements etc.</li> <li>CO3: List and illustrate the concept inheritance to develop Java programs.</li> <li>CO4: Analyse and execute exception handling and use built in packages in programs and even create their own package according to the scenario.</li> <li>CO5: Design and create interactive application programs using Interface components, file handling, database connectivity and generating multiple threads.</li> </ul>
Lab – VIII Dot Net Technology	<ul> <li>CO1: Illustrate programs of Data type, control structure and loops etc.</li> <li>CO2: Create and execute programs with implementation of procedure, function, structure, array etc.</li> <li>CO3: Demonstrate window-based application with using different controls.</li> <li>CO4: Create and execute program using Class, Object and apply Oops features.</li> <li>CO5: Construct Window based application with ADO, Database connectivity controls etc.</li> </ul>

#### **Course Outcome for M.Sc. in Computer Science**

<b>M.Sc. (C.S.) – I Sem.</b>	
Paper	Course Outcomes
Principles of Programming Languages	<ul> <li>CO1: Describe the common features of programming languages, their characteristics and elements. Classify programming languages and their role and paradigm.</li> <li>CO2: Design and analyse step-by-step problem-solving processes for efficient and logical problem solving.</li> <li>CO3: Select and apply appropriate data types and create connections between variables and values in programming for efficient data manipulation.</li> <li>CO4: Design and implement structured and object-based software solutions, allowing for efficient code organization and reusability.</li> <li>CO5: Describe functional and logic-based paradigms for declarative and</li> </ul>
	mathematically-driven problem solving.
Advance Operating System	<ul> <li>CO1: Demonstrate the fundamental concepts and principles of operating systems, distinguish process management, memory management, file systems, and input/output operations.</li> <li>CO2: Explain advanced concepts related to process scheduling, synchronization, and deadlock resolution to design and demonstrate multitasking and multi-threaded applications.</li> <li>CO3: Define and implement memory management techniques, including virtual memory systems, TLB, and shared memory.</li> <li>CO4: Demonstrate and classify device drivers, devices switch table.</li> <li>CO5: Explain the concept of virtual file systems, including support for distributed and networked file systems.</li> </ul>
Data Structure Through Algorithms Using 'C'	<ul><li>CO1: Define and classify basic data structures such as array, linked list, stack, queue, tree and graph. Explain the concept of algorithm complexity and analyse algorithms for their efficiency.</li><li>CO2: Define array data structure and write programs for array operations.</li></ul>

M.Sc. (C.S.) – I Sem.	
Paper	Course Outcomes
	<ul> <li>CO3: Explain linear data structures linked list, stack and queue and write programs for operations. Apply appropriate data structure to solve specific problems.</li> <li>CO4: Describe non-linear data structure and write programs for their operations and applications.</li> </ul>
	<b>CO5:</b> Analyse and compare various sorting and searching techniques. Explain the concept of hashing.
Programming in Java	<ul> <li>CO1: List and implement features of OOP that can help in solving real projects.</li> <li>CO2: Apply Java's object-oriented features to build application, creating packages and multiple threads.</li> <li>CO3: Illustrate the features of this programming language such as Exception handling, File handling and creating web-based programs.</li> <li>CO4: Demonstrate working of JDBC to provide a program level interface for communicating with database using java programming.</li> <li>CO5: Design and construct create client server program.</li> </ul>
Computer System Architecture	<ul> <li>CO1: Recall the representation of information and designing of combinational circuit in computer system.</li> <li>CO2: Explain the concept of common bus and symbolic notation language to represent micro-operation.</li> <li>CO3: Discuss the instruction code and design of computer.</li> <li>CO4: Explain the concept of computer software and central processor organization.</li> <li>CO5: Explain Input-output organization and the working of different kind of memories in computer system.</li> </ul>
Programming Lab Based on Paper-III	<ul> <li>CO1: Write code to apply concept of abstract data type.</li> <li>CO2: Apply programming techniques using pointers, dynamic memory allocation and structures to perform basic operations on data structures.</li> <li>CO3: Apply the knowledge of data structure in problem solving.</li> <li>CO4: Write code for different sorting and searching techniques.</li> </ul>

<b>M.Sc. (C.S.) – I Sem.</b>	
Paper	Course Outcomes
Programming Lab Based on Paper-IV	<ul> <li>CO1: Applying the features of OOP to solve problems.</li> <li>CO2: Design and implement Java's core objective functions such as Inheritance, interface, abstract classes, generate multiple threads and work with extensive classes of built in packages.</li> <li>CO3: Executing and checking of exceptions, throw user defined exceptions, work with input and output streams and design browser-based programs such as applets.</li> <li>CO4: Design interactive applications using user interface components and JDBC.</li> <li>CO5: Apply networking basics such as sockets, client sockets, understand servlet: Explain the basics of servlets and their lifecycle, design and run servlets to handle HTTP request and responses.</li> </ul>

M.Sc. (C.S.) – II Sem.	
Paper	Course Outcome
	CO1: Design relational database for various Industries and different real
	scenarios. Ability to create Entity-Relationship Diagrams (ERDs) to visually
Advanced RDBMS	<b>CO2:</b> Design normalized relations with valid set of functional dependencies.
(PL/SQL)	<b>CO3:</b> Execute queries for different scenarios as per the need.
	<b>CO4:</b> Implement PLSQL Queries and solve the real time problem.
	<b>CO5:</b> Explain Data organization and object-oriented Database.
	<b>CO1:</b> Enumerate the layers of the OSI model and TCP/IP, explain the function
	of each layer.
	<b>CO2:</b> Learn to administer a network and the flow of information.
Advance Computer	<b>CO3:</b> Describe the use of different protocols required for proper communication
Network	or transmission.
	<b>CO4:</b> Define various aspects of networking and its security through different
	algorithms
	CO5: Discuss various IEEE standards for computer networks.
	<b>CO1:</b> Explain basic HTML tags for constructing static pages and how to use a
	Cascading Style Sheet.
Web Development	<b>CO2:</b> Learn to Build dynamic web pages using JavaScript.
Using Open-Source	CO3: Demonstrate basic concepts of PHP.
Scripting Language	CO4: Demonstrate different ways of connecting to MySQL through PHP,
	Perform data manipulation.
	<b>CO5:</b> Design web-based applications using PHP and XAMPP server.
	<b>CO1:</b> Analyse finite automata for pattern recognition and language processing.
	<b>CO2:</b> Recognize and generate patterns and sequences within the framework of
	regular expressions
Formal Automata Theory	CO3: Define and analyse the syntax of programming languages and other
	structured text using formal grammatical rules.
	<b>CO4:</b> Design and analyse algorithms for solving a wide range of computational
	problems.
	<b>CO5:</b> Apply knowledge of automata and languages to differentiate decidability
	and undesirability.

<b>M.Sc.</b> (C.S.) – <b>II</b> Sem.	
Paper	Course Outcome
Soft Computing	<ul> <li>CO1: Evaluate and compare solutions by various soft computing approaches for finding the optimal solutions.</li> <li>CO2: Ability to learn the methodology to solve optimization problems using fuzzy logic, genetic algorithms and neural networks.</li> <li>CO3: Study about Artificial Neural Network, its classification &amp; its application.</li> <li>CO4: Demonstrate basic concept of machine learning and its tools.</li> <li>CO5: Learn different tools of Soft Computing such as MATLAB.</li> </ul>
Programming Lab Based on Advance RDBMS (PL/SQL)	<ul> <li>CO1: Write SQL commands to design database.</li> <li>CO2: Write SQL commands to retrieve data from one or more tables.</li> <li>CO2: Execute filtering, sorting, and limiting query</li> <li>CO3: Ability to use JOIN operations to combine data from multiple tables.</li> <li>CO4: Creating and using PL/SQL packages to organize and modularize code.</li> </ul>
Programming Lab Based on Web Development Using Open-Source Scripting Language	<ul> <li>CO1: Design and execute webpage using basic HTML tag.</li> <li>CO2: Design form using HTML Form control. Apply CSS to create an interactive webpage.</li> <li>CO3: Create Dynamic webpage using Java Script.</li> <li>CO4: Design Web based application &amp; communicate with database using PHP &amp; XAMPP Server.</li> </ul>

M.Sc. (C.S.) – III Sem.	
Paper	Course Outcome
.Net Technology	<ul> <li>CO1: Explain concept of Dot net framework, components of JIT compiler, metadata and Assemblies.</li> <li>CO2: Design and execute the console and GUI applications using vb.net.</li> <li>CO3: Construct classes, methods, and assessors, and instantiate objects, demonstrate file handling and XML document handling.</li> <li>CO4: Construct dynamic and interactive web applications using the Microsoft ASP.NET.</li> <li>CO5: Explain ADO.NET Architecture and its components, Construct database application, establish database connection through ADO.NET.</li> </ul>
Software Engineering	<ul> <li>CO1: Explain and construct software development framework, process model etc.</li> <li>CO2: Define the basic concepts and importance of Software project management concepts like cost estimation, scheduling and reviewing the progress and design and construct principle of software design.</li> <li>CO3: Explain and Discuss about CASE tools and discuss recent trends and research in software engineering</li> <li>CO4: Explain IT project management through life cycle of the project.</li> <li>CO5: Define to manage the risk and utilize the resources in order to make an efficient System, cost estimation and various management model.</li> </ul>
Open-Source Software with Case Study of Linux	<ul> <li>CO1: Learn the fundamental concepts of open-source operating system Linux.</li> <li>CO2: Study basic set of commands and editors in Linux operating system.</li> <li>CO3: Learn shell programming in Linux operating system.</li> <li>CO4: Develop the skills necessary for systems programming including file system programming, process and signal management and inter-process communication.</li> <li>CO5: Explaining the role and responsibilities of a Linux system administrator.</li> </ul>
Computer Graphics	<ul><li>CO1: Learn the basics of graphics of display devices.</li><li>CO2: Learn and implement Output primitives basic and necessary algorithms such as Brenham's algorithm, DDA, Ellipse generating algorithms etc.</li></ul>

M.Sc. (C.S.) – III Sem.	
Paper	Course Outcome
	<ul> <li>CO3: Learn and understand 2D transformation of different objects. Analyse and apply clipping algorithm on 2D images.</li> <li>CO4: Use of 3D transformations on graphics objects and their application in composite form.</li> <li>CO5: Explore projections and visible surface detection techniques for display of 3D scene on 2D screen.</li> </ul>
Data Mining and Data Warehousing	<ul> <li>CO1: Define the concept of data warehousing, recall key components of a data warehouse architecture, list common data mining techniques.</li> <li>Identify essential terms related to data warehousing and mining.</li> <li>Summarize the steps involved in the ETL (Extract, Transform, Load) process.</li> <li>CO2: Explain need of preprocessing the data, demonstrate steps of KDD, list data mining primitives, recall data mining query language, explain data mining architecture, and recognize concepts description.</li> <li>CO3: Define and list the key components of association rule mining, discuss common algorithms for association rule mining (e.g., Apriori, FP-Growth), Explain classification, prediction, summarize decision tree induction, Bayesian classification and back propagation.</li> <li>CO4: Discuss cluster analysis and describe the types of clustering algorithms, such as K-means, hierarchical, and DBSCAN, Define the types of clustering methods, such as partitioning, hierarchical, density-based, and grid-based, recall common distance metrics used in clustering, such as Euclidean distance and Manhattan distance.</li> <li>CO5: Define complex types of data, including multimedia, web, spatial, temporal, and text data, list key domains where data mining is commonly applied, such as finance, healthcare, and marketing.</li> </ul>
Programming Lab based on .Net Technology	<ul> <li>CO1: Executes programs of data type, control structure and loops etc.</li> <li>CO2: Write code to apply programming concepts of procedure, function, structure, array. Demonstrate window-based application using different controls.</li> <li>CO3: Create and execute program using OOPS features, apply file handling.</li> </ul>

M.Sc. (C.S.) – III Sem.	
Paper	Course Outcome
	<b>CO4:</b> Design Web based application with ASP.Net, apply validation controls.
	<b>CO5</b> : Design Window based application with ADO, Database connectivity controls.
Programming Lab based on Open- Source Software with Case Study of Linux	<ul> <li>CO1: Practical knowledge about Linux shell environment and execute basic commands.</li> <li>CO2: Apply grep, awk &amp; sed command in already existing &amp; newly created file.</li> <li>CO2: Use vi editor through commands &amp; edit in already existing file.</li> <li>CO3: Write shell programs for basic tasks.</li> </ul>

<b>M.Sc.</b> (C.S.) – <b>IV</b> Sem.	
Paper	Course Outcome
Cloud Computing	<ul> <li>CO1: Explain the importance of virtualization in distributed computing and indicate enabled the development of cloud computing.</li> <li>CO2: Justify cloud architecture and analyse various services of the cloud (IaaS, SaaS, PaaS).</li> <li>CO3: Organize the concept of Cloud Security.</li> <li>CO4: Identity problems, and explain, analyse, and evaluate various cloud computing solutions.</li> <li>CO5: Recognize the benefit of adapting of cloud services which help them to work with different renowned institutions who already into it.</li> </ul>
Network Security and Cryptography	<ul> <li>CO1: Describe various protocols for network security to protect against the threats in the networks.</li> <li>CO2: Explain message authentication and describe hash function, public cryptographic techniques</li> <li>CO3: Analyse the methods of message integrity and also illustrate various algorithm of message authentication and digital signature</li> <li>CO4: Analyse and implement malicious software, Intruders and Intrusion Techniques.</li> <li>CO5: Implement, evaluate and compare Firewall and Security tools</li> </ul>
Internet of Things	<ul> <li>CO1: Analyse and use the knowledge of various IoT Technologies.</li> <li>CO2: Describe various IoT reference model &amp; technical design constraints.</li> <li>CO3: Design and analyse various Network and Data link layer protocols.</li> <li>CO4: Explain various Transport and Session layer protocols.</li> <li>CO5: Describe and compare service layer protocols along with security in IoT Protocols.</li> </ul>

### Course Outcome for Post Graduate Diploma in Computer Application (P.G.D.C.A.)

PGDCA – I Sem.	
Paper	Course Outcomes
Fundamentals of Computers	<ul> <li>CO1: Explaining basic characteristics and capabilities of computer System</li> <li>CO2: Describe and identify about input devices and Output devices</li> <li>CO3: Classify Basic Components of Storage Devices.</li> <li>CO4: Compare the types of Software and Exploring Operating System and BIOS</li> <li>CO5: Execute Linux Operating System Commands.</li> </ul>
Office Automation	<ul> <li>CO1: Explain the basic technicalities in creating, formatting, and editing documents using Microsoft Word.</li> <li>CO2: Create and design a spreadsheet for general office.</li> <li>CO3: Construct an effective PowerPoint presentation.</li> <li>CO4: Design of database using MS-ACCESS, generate report and query.</li> <li>CO5: Design professional-quality publications and marketing materials using Microsoft Publisher.</li> </ul>
Programming in C	<ul> <li>CO1: Discuss the fundamental concept and element of C language to write C programs.</li> <li>CO2: Apply the concept of Control structure and its classification. Apply the concept of Function to reduce the complexity of program.</li> <li>CO3: Write programs for different operations on array and pointer. Execute the concept of string and function.</li> <li>CO4: Learn and compare the concept of structure and union to write source code for handling complex data.</li> <li>CO5: Illustrate techniques of file handling and applying concept of dynamic memory allocation for proper utilization of memory space.</li> </ul>
Office Automation Lab	CO1: Demonstrate formatting and editing of documents using Microsoft Word.

PGDCA – I Sem.	
Paper	Course Outcomes
	CO2: Create, design and manipulate spreadsheet for general office.
	CO3: Prepare an effective PowerPoint presentation and apply animations.
	CO4: Design of database using MS-ACCESS, generate report and query.
	CO5: Create and design professional-quality publications and marketing
	materials using Microsoft Publisher.
Programming in C Lab	CO1: Write and execute the basic program of C language using fundamental
	concept like Input output function, header file, keywords etc.
	CO2: Apply all concepts of Control structure and Function.
	CO3: Learn to execute different operation on array and pointer.
	CO4: Compare the concept of structure and union through the program and
	execute programming constructs for problem solving.
	CO5: Use file handling function and dynamic memory allocation concept
	through program.

PGDCA – II Sem.	
Paper	Course Outcome
	<b>CO1:</b> Explain the concept of Dot net framework, components of JIT compiler, metadata and assemblies.
	<b>CO2:</b> Define datatypes and operators and execute the console applications using vb.net.
VB.Net	<b>CO3:</b> Illustrate Programming skills using Conditional and looping structure.
	<b>CO4:</b> Design GUI applications using vb.net and apply data binding with GUI tools.
	CO5: Explain ADO.NET Architecture and its components, Construct database
	application, establish database connection through ADO.NET.
	CO1: Demonstrate basic concept of DBMS. Classify and compare different
	types of data models.
	CO2: Design Entity-Relationship diagrams to represent Relational database
Database	CO3: Classify Relational Algebra, Domain Relational Calculus and Tuple
Management System	Relational Calculus concepts and formulate queries.
	CO4: Summarize the relational database design principles. Conduct
	normalization theory to the normalization of a database.
	<b>CO5:</b> Create and modify database structures using SQL.
	CO1: Study about the internet-related concepts that are necessary for web
	development.
	<b>CO2:</b> learn basic HTML tags for creating webpage & its steps to design.
Internet and E-	CO3: Demonstrate HTML form control.
Commerce	<b>CO4</b> : Learn various ways to apply CSS to create interactive webpage in efficient
	way.
	<b>CO5:</b> Analyse the impact of E-commerce on business models and strategy.
	<b>CO1</b> : Illustrate and solve programs of data type and operators etc.
Programming in VB.Net Lab	<b>CO2</b> : Create and execute programs with control structure and loops etc.
	<b>CO3:</b> Create Console programs with implementation of procedure, function,
	structure, array etc.
	<b>CO4:</b> Demonstrate window-based application with using different controls.
	CO5: Construct and design Window based application with ADO, Database
	connectivity controls etc.

PGDCA – II Sem.	
Paper	Course Outcome
Database Management System Lab	<ul> <li>CO1: Design and implement database applications.</li> <li>CO2: Practical knowledge on designing and creating relational database systems.</li> <li>CO3: Establish relationship between tables.</li> <li>CO4: Solve database Problems using SQL Query</li> </ul>
Internet and E- Commerce Lab	<ul><li>CO1: Learn basic html tag &amp; know steps how to create web page.</li><li>CO2: Able to design some static webpage by combining all the basic tags &amp; working with tables.</li><li>CO3: Apply CSS to create an interactive webpage with html.</li></ul>


Aff.: Pt. Ravishankar Shukla University, Raipur (C.G.) and recognized under section 2(f) of the UGC Act. 1956) Under the aegis of Disha Education Society

# Department of Science

# Course Outcome

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### **DEPARTMENT OF SCIENCE**

B.Sc. or Bachelor of Science is an undergraduate degree of three years duration BSc is one of the most popular courses opted for by students who have a flair for scientific aptitude and zeal for research-oriented and calculative approaches based on a proven systematic method. Science is all about experimentation, research and discovery. A BSc degree is a culmination of both theoretical and practical ways of learning. Pursuing a BSc degree also opens up multiple avenues for a student and he/she can either opt for higher studies in science or any other discipline which may be related to or different from the subjects studied during graduation. However, a Master of Science (MSc) is the most popular higher education alternative opted for by students after completing BSc.

M.Sc. Mathematics is a two-year postgraduate course in Mathematics dealing with providing in-depth knowledge of advanced and applied mathematics like geometry, algebra, calculus, number theory, dynamical systems, differential equations and prepare the students for various research activities.

M.Sc. Mathematics course includes subjects like Advanced Complex Analysis, Real Analysis, Topology, Integration theory & Functional Analysis, Fuzzy set Theory & its application, Operation Research and Graph Theory etc.

### VISION

To become a center of excellence in science education.

#### **MISSION**

- 4 To create students of science with good quality, positive attitude and perfect blend of knowledge.
- **4** To create good citizens of tomorrow, with their dedication to excellence.
- To provide art of infrastructure and learning resources required for quality education and research activities
- **4** To sustain academic excellence.

## **Department of Science** Course Outcome for B.Sc.

B.Sc. – I	
Paper	Course Outcomes
हिन्दी भाषा	CO1: पल्लवन, अनुवाद, पत्राचार एवं कहानी को स्पष्ट कर सकेंगे। CO2: अशुद्धियों का वर्गीकरण एवं कविता की व्याख्या कर सकेंगे। CO3: देवनागरी के अन्य नामों का उल्लेख एवं अपठित गद्यांष से भाषा की क्षमता का विकास कर सकेंगे। CO4: कम्प्यूटर और भाषा के बीच द्विभाषात्मक सम्बंध स्पष्ट कर सकेंगे। CO5: भाषा के विभिन्न रुपों का वर्णन एव आधुनिकीकरण की प्रक्रिया की विवेचना कर सकेंगे।
English	<ul> <li>CO1: To teach the value of English grammar in effective communication &amp; to articulate the correct form of tenses.</li> <li>CO2: To discover the ability to read &amp; write by illustrating them the skills of writing &amp; reading.</li> <li>CO3: To discover the different structures of sentences &amp; correlate them according to the need of communication</li> <li>CO4: To reframe the extract of multi diversity in language by using voice &amp; narration.</li> <li>CO5: To write and modify the complete structural details of paragraph writing and becoming able to read more effectively</li> </ul>
Physics Paper-I Mechanics, Oscillation and Special Theory of Relativity	<ul> <li>CO1: Explain the Vectors and Differential Equation used in Physics. and Solve Numerical problem based on Differential equation and Vectors</li> <li>CO2: Explain different types of Motion and Conservations laws. and Solve Numerical problem based on laws of motion and conservation laws</li> <li>CO3: Describe Rotational Motion and various Properties of Matter like Elasticity and Viscosity and Solve Numerical problem based on rotational motion and various properties of matter like Elasticity and Viscosity.</li> <li>CO4: Explain various types of Oscillatory Motion and GPS system and Solve Numerical problem based on Oscillatory motion.</li> </ul>

<b>B.Sc.</b> – <b>I</b>	
Paper	Course Outcomes
	<b>CO5:</b> Define Frame of Reference and Explain Special Theory of Relativity and Solve Numerical problem based on Applications of Special Theory of Relativity.
Physics Paper-II Electricity And Magnetism	<ul> <li>CO1: Recall the Vector Algebra and basic differentiation and integration.</li> <li>Formulate del operators; Gradient, Divergent and Curl and its application.</li> <li>Solve and analyse numerical problem based on these and able to apply in Electrostatics &amp;Magneto statics.</li> <li>CO2: Define Electrostatic terms; force, field, potential, dipole moment State Gauss's law and describe its application. Solve Numerical problem based on Electrostatics.</li> <li>CO3: Define Polarization and classify Dielectrics. Define Electric Current and current density. Analyse and Apply Network Theorems and Kirchhoff's law to Solve Network circuits. Rise and Decay in a circuit (LR, CR LCR). Solve Numerical problem based on above.</li> <li>CO4: Recall Magneto statics. State Biot–Savart's law &amp;Ampere's circuital law and its application to determine magnetic field intensity. Explain Magnetic Properties of Materials and Classify Magnetism. Solve Numerical problem based on Biot-Savart's law and Ampere's circuital law.</li> <li>CO5: Define Electromagnetic Induction, Discuss Faraday's law, Lenz's law, Derive and explain Maxwell's Equations and Electromagnetic Wave Propagation. Solve Numerical problems.</li> </ul>
Mathematics Paper-I Calculus	<ul> <li>CO1: Determine the limit and examine the continuity and illustrate the geometrical interpretation of differentiability.</li> <li>CO2: To be able to write expansion of function and to evaluate the limit of a function at a point.</li> <li>CO3: Draw curves in Cartesian and polar coordinate systems and recognize nature of curves.</li> <li>CO4: Explain conceptual variations while advancing from one variable to several variables in calculus.</li> </ul>

<b>B.Sc.</b> – <b>I</b>	
Paper	Course Outcomes
	<b>CO5</b> : Determine inter-relationship amongst the line integral, double and triple integral formulations and explain importance of Green, Gauss and Stokes theorems in other branches of mathematics.
Mathematics Paper-II Algebra	<ul> <li>CO1: Discuss sets, relations, prove equivalence relations, find roots of polynomial equations and state and apply De moiré's theorem.</li> <li>CO2: Explain the concept of groups, subgroups, cosets, prove Lagrange's theorem, discuss normal subgroups, factor groups, group homomorphism and isomorphism.</li> <li>CO3: Explain the concept of cyclic group, centralizer, normalizer and permutation groups.</li> <li>CO4: Discuss special types of Matrices. Solve simultaneous equation using matrix method, find eigen values and eigen vectors of matrix and verify Cayley Hamilton Theorem.</li> <li>CO5: Explain the concept of vector space its basis and dimension, linear transformation and its matrix representation and prove rank nullity theorem.</li> </ul>
Computer Science Paper-I Computer Hardware	<ul> <li>CO1: Recall the history and types of computers and terminology of computer.</li> <li>CO2: Define the functioning of CPU and instruction cycle.</li> <li>CO3: Illustrate the various kind of memories and their functioning of computer system.</li> <li>CO4: Demonstrate the various Input-output devices.</li> <li>CO5: Explain the concept of system software and programming technique.</li> </ul>
Computer Software Paper-II Programming with C And C++	<ul> <li>CO1: Develop programming skill and learn how to implement new software.</li> <li>Develop programming and logical concepts which helps to build up source code of concern programming language. Learn the basic concept of programming like compilation, debugging, executing, linking and loading. Illustrate about the structure of C programs. Implement different Operations on arrays</li> <li>CO2: Implement different Operations on functions, structures, unions, pointers and files. Apply skill of identifying appropriate programming constructs for problem solving.</li> <li>CO3: Explain about Procedure oriented and object-oriented concepts.</li> </ul>

<b>B.Sc.</b> – <b>I</b>	
Paper	Course Outcomes
	<ul><li>CO4: Learn the concept of inheritance and polymorphism which helps them to develop programs to solve real world problems.</li><li>CO5: Implementing the concept of file handling concepts in c to develop programs for real life. Also discover the concept for handling exception in C++.</li></ul>
Physics Lab	<ul> <li>CO1 Illustrate about the use of various measuring instruments.</li> <li>CO2.Explain the working and principle of Mechanics Equipment's</li> <li>CO3: Illustrate about the working and principle of equipment based on electricity and magnetism.</li> </ul>
Mathematics Lab	<ul> <li>CO1: Develop programming skill and learn how to implement new Free and Open-Source Software on Calculus and Algebra.</li> <li>CO2: Acquire knowledge of applications of Calculus and Algebra through FOSS.</li> <li>CO3: To learn applications about Mathematics practical with Free and Open-Source Software (FO tools for computer programs, such as GeoGebra/Maxima/Scilab/Oct/Python/R.</li> <li>CO4: At the end of course, Students will be able to illustrate about the structure of programs using Free and Open-Source Software (FOSS) tools for computer programming</li> <li>CO5: Solve problems on Calculus and Algebra theories studied in Mathematics.</li> </ul>
Computer Lab	<ul> <li>CO1: Explain the fundamental programming concept sand methodologies which are essential to create good C/C++ programs.</li> <li>CO2: Code, test and implement a well-structured, robust computer program using the C/C++ programming language.</li> <li>CO3: Write reusable modules (collections of functions).</li> <li>CO4: Understand design/implementation issues involved with variable allocation and binding, control flow, types, parameter passing.</li> <li>CO5: Develop an in-depth understanding of function, logic and object-oriented programming paradigms.</li> </ul>

B.Sc. – II	
Paper	Course Outcome
हिन्दी भाषा	<ul> <li>CO1: सत्य और अहिंसा तथा युवकों का समाज में स्थान की अभिव्यक्ति को जान सकेंगे।</li> <li>CO2: मातृ भूमि निबंध और सम्भाशण कुषलता में अभिव्यक्ति की व्याख्या कर सकेंगे।</li> <li>CO3: डॉ. खूबचंद बघेल की जीवनी पर चर्चा कर सकेंगे।</li> <li>CO4: हिन्दी भाषा के विविध रुप और अभिव्यक्ति के प्रयोग को जान सकेंगे।</li> <li>CO5: हिन्दी की व्यवहारिक कोटियों को विष्लेशित कर सकेंगे।</li> </ul>
English language	<ul> <li>CO1: Improved effective reading and understanding on different subjects on science duly recognizing the contribution of Indian ancient scientists and ability to reproduce and right answers on the questions of the read material.</li> <li>CO2: Improved to comprehend and interpret a text read for the first time and being able to represent and formulate accurate answers with reference to the context. Helped to learn how to recall and improve vocabulary, the antonyms, the synonyms and how to construct a new word or modify a word with the help of affixal – prefixes and suffixes.</li> <li>CO3: Demonstrated and generated to learn precise and quality writing depending upon the subject and requirements of the issue.</li> <li>CO4: This again has taught to be able to write effectively and expanding an idea.</li> <li>CO5: Learning by revising and recalling the topics of Grammar, already covered in previous classes, has further strengthened the foundation of the English language. Learning to improve the vocabulary has instilled the desire to continue to work on it.</li> </ul>
Physics Paper-I Thermodynamics, Kinetic Theory and Statistical	<ul> <li>CO1: Explain basic terms of thermodynamics and fundamental laws of thermodynamics and solve numerical problem based on the thermodynamics.</li> <li>CO2: Define different thermodynamic potential and explain phenomenon based on it. solve numerical problem based on the Thermodynamic potential.</li> <li>CO3: Explain different distribution laws of velocities and speed and also Transport Phenomenon. solve numerical problem based on it.</li> <li>CO4: Illustrate the basic Terms and parameter of Statistical Physics and solve numerical problem based on the Statistical physics.</li> </ul>

B.Sc. – II	
Paper	Course Outcome
	CO5: Explain different Statistics like Maxwell –Boltzmann, Fermi Dirac and
	Bose- Einstein and also solve numerical problem based on the above.
	CO1: Define the wave motion and Acoustics and Solve Numerical problem
	based on wave motion and Acoustics.
	<b>CO2:</b> Define Fermat principles and explain different laws of optics Solve
Physics	Numerical problem based on Fermat principles and optics.
Paper-II	CO3: Define interference and its application and Solve Numerical problem
Waves, Oscillation and LASER	based on interference and its application.
	<b>CO4</b> : Illustrate Diffraction, Polarization and Solve Numerical problem based on
	Diffraction, Polarization.
	<b>CO5:</b> Explain LASER physics and Solve Numerical problem based on LASER
	physics
	<b>CO1:</b> Explain about Real sequence and series and solve problem based on the
	series and Real sequence.
	<b>CO2:</b> Explain the concept of Limit and continuity of function of one variable
Mathematics	and solve problem based on the above.
Paper-I	<b>CO3:</b> Illustrate about concept of limit and continuity of function of two variable
Advanced Calculus	and Differentiability. solve problem based on the above.
	<b>CO4:</b> To discuss about the theoretical concept of Envelope of family of curve.
	Solve problem based on the above.
	<b>CO5:</b> Explain Beta and Gama Function and Concept of Multiple integration and
	solve problem based on the above
	<b>CO1</b> : Find series solution of differential equation by Power series. Identify and
	Solve Bessel's function, Legendre's function and their properties. Explain
	orthogonality of function and evaluate Strum-Liouville problem.
Mathematics Paper-II	CO2: Define Laplace Transformation and Implementing it in solving Linear
Differential Equations	differential Equation.
	CO3: Solve the Partial Differential Equations of the first order. Compute
	Lagrange's Solution. Identify the standards forms and solve it accordingly. Use
	Charpits general method of solution.

B.Sc. – II	
Paper	Course Outcome
	CO4: Solve Partial Differential Equations of second and higher orders. Identify
	and solve the Homogeneous and non-homogeneous equations with constant
	coefficients, Reducible equations with constant coefficient, Integrating partial
	differential equation with Monges methods.
	CO5: Demonstrate the concept of variational problem in fixed and moving
	boundaries and explain the sufficient condition for an extremum.
	<b>CO1:</b> Discuss conditions for the equilibrium of particles acted upon by various
	forces, explain stable and unstable equilibrium state of a body, principle of
	virtual work for a system of coplanar forces acting on a particle and rigid body
	and catenary.
	<b>CO2:</b> Discuss forces in three dimensions, Poinsot' s Central axis and null lines
Mathematics	and null planes.
Paper-III Mechanics	CO3: Discuss simple harmonic motion, find velocity and acceleration along
TVICCII UNICO	radial and transverse directions and explain projectile and central orbits.
	CO4: Describe Kepler's Laws of Motion (Planetary motion),
	discuss and find tangential and normal velocity and acceleration
	Discuss motion of particle on smooth and rough plane curve.
	<b>CO5:</b> Discuss motion of particle in a resisting medium, motion of particle of
	varying mass and motion of particle in three dimensions.
	<b>CO1</b> : Recall the history and types of computers and terminology of computer.
	<b>CO2:</b> Define the functioning of CPU and instruction cycle.
Computer Science Paper-I	<b>CO3:</b> Illustrate the various kind of memories and their functioning of computer
Computer Hardware	system
	CO4: Demonstrate the various Input-output devices.
	<b>CO5:</b> Explain the concept of system software and programming technique.
	CO1: Illustrate the Web-language-HTML.
Computer Science	<b>CO2:</b> Explain the internet and web related technology.
Paper-II	<b>CO3:</b> Summarize the web page designing using HTML.
Computer Software	CO4: Demonstrate the object-oriented programming concept using C++
	Language.

B.Sc. – II	
Paper	Course Outcome
	<b>CO5:</b> Measure the problem-solving methodology using the C++ Programming feature.
Physics Practical	<ul> <li>CO1 Illustrate about the use of various measuring instruments.</li> <li>CO2.Illustrate about interference, Diffraction and Polarization.</li> <li>CO3Students will be able to recognize Basic Laws of Thermodynamics.</li> </ul>
Computer Science Practical	<ul> <li>CO1: Explaining and programming the Web-language-HTML.</li> <li>CO2: Explain the internet and web related technology.</li> <li>CO4: Demonstrate and programming the object-oriented programming concept using C++ Language.</li> <li>CO5: Measure the problem-solving methodology using the C++ Programming feature.</li> </ul>

B.Sc. – III	
Paper	Course Outcome
	CO1: भारत माता के विविध रुप और षैली की अभिव्यक्ति को जान सकेंगे।
	CO2: सूखी डाली तथा विभिन्न संरचनाओं को विष्लेशित कर सकेंगे।
हिन्दी भाषा	CO3: कार्यालयीन पत्र के अर्थ प्रकार उदाहरण को विष्लेशित कर सकेंगे।
	CO4: योग की महत्व के सह संज्ञानात्मक गतिविधियों पर चर्चा कर सकेंगे।
	CO5: संस्कृति और राष्ट्रीय एक सूत्रात्मक सम्बंधों को स्पष्ट कर सकेंगे।
	CO1: Improved effective reading and understanding on different subjects on
	science duly recognizing the contribution of Indian ancient scientists and ability
	to reproduce and right answers on the questions of the read material.
	<b>CO2:</b> Improved the competence to justifiably write extensively and
	systematically on a topic.
	<b>CO3:</b> Learnt the analytical ability to interpret and summarize a given text keeping all the important points intact
English language	<b>CO4.</b> Improved to evoluate and comprehend a text read for the first time and
	being able to represent and give accurate answers with reference to the context
	Helped to learn how to recall and improve vocabulary, the antonyms the
	synonyms and how to construct a new word or modify a word with the help of
	affixal – prefixes and suffixes.
	<b>CO5:</b> Learning by revising the topics of Grammar, already covered in previous
	classes has further strengthened the foundation of the English language.
	<b>CO1:</b> Define frame of Reference and Explain Special Theory of Relativity and
	Solve Numerical problem based on Application of Special Theory of Relativity.
	<b>CO2:</b> Explain inadequacy of classical physics and basic of quantum mechanics
Physics Paper-I	and Solve Numerical problem based on inadequacy of classical physics and
Relativity, Quantum	basic of quantum mechanics.
Mechanics and Atomic	CO3: Describe basics of Quantum mechanics and its application and Solve
and molecular Physics	Numerical problem based on Quantum mechanics and its application.
	CO4: Explain Atomic, molecular and spectrum and Solve Numerical problem
	based on Atomic, molecular and spectrum.

B.Sc. – III	
Paper	Course Outcome
	<b>CO5:</b> Explain basics of Nuclear and Particle physics and also define about various nuclear detectors and solve Numerical problem based on Nuclear and Particle physics.
Physics Paper-II Solid State Physics, Solid State Devices and Electronics	<ul> <li>CO1: Define Crystal Structure, Classify Crystals. X-ray diffraction, Various types of Bonding in solids, Specific heat of solids and their theories, Brillouin Zone and Solve Numerical problem based on Miller indices, Bragg's Law, Specific heat of solids and Dispersion relation.</li> <li>CO2: Explain Free electron model of a metal, Energy bands in a solid, Difference between Metals, Insulators and Semiconductors. Hall effect, Various types of Magnetism and their theories, Hysteresis loss and Solve Numerical problem based on Density of states, Fermi Energy, Hall voltage, Hall Coefficient.</li> <li>CO3: Define semiconductors, Various types of p-n junction diodes and its applications, Transistors types and Characteristic sand Solve Numerical problem based on Fermi Energy, Mobility of electrons and holes, drift and diffusion currents, Diodes, BJT, FET and MOSFET.</li> <li>CO4: Discuss Rectifier, Filters, Regulated Power Supply using Zener Diode, Applications of transistors Bipolar Transistor as Amplifier&amp; Oscillator, and Solve Numerical problem based on Rectifier efficiency, ripple factor, Amplification factors.</li> <li>CO5: Describe Digital Electronics; explain Number Systems, Discuss Logic Gates, Boolean Algebra and Converter and Solve Numerical problem based on Universal Logic Gates, De-Morgan's Theorems and simplification of Logic Circuit using Boolean Laws.</li> </ul>
Mathematics Paper-I Analysis	<ul><li>CO1: Solve Series solution of arbitrary terms, Recall Partial Derivative and find Continuity &amp;Differentiability of functions of two variables and implicit function, Compute Fourier series.</li><li>CO2: Define and Solve Riemann integral, Executing Test of convergence of Improper Integrals. Integral as a function of a parameter.</li></ul>

B.Sc. – III	
Paper	Course Outcome
	<ul> <li>CO3: Explanation &amp; Illustration of Complex numbers and their geometrical representation. Define Continuity and Differentiability of complex functions, Analytic functions. Prepare Mapping of elementary functions. Determine Mobius Transformations &amp; Conformal Mappings.</li> <li>CO4: Write Definition and Solve examples of metric space. Explain contraction principle and construction of Real numbers from rational, Define Real numbers as a complete ordered field.</li> <li>CO5: Explain Dense subsets, Demonstrate the concept of Baire category theorem, Discuss Separable, first countable and second countable space. Find Uniform continuity. Explanation of Compactness &amp; Connectedness.</li> </ul>
Mathematics Paper-II Abstract Algebra	<ul> <li>CO1: Explain automorphism of a group conjugacy relation, normalizer, centre of group and state and prove sylow's theorem.</li> <li>CO2: Discuss ring, Ideals, field, ring of polynomials, find g.c.d. of two polynomials and explain modules</li> <li>CO3: Discuss vector spaces, subspaces, linear span of a set, linear dependent and linear independent set of vectors, basis and dimension of vector space quotient space and coordinate representation of a vector.</li> <li>CO4: Explain linear transformations, find matrix of linear transformation discuss annihilator of a sub space, find eigen values and eigen vectors of linear transformations, prove diagonalization of matrices, explain bilinear and quadratic forms.</li> <li>CO5: Explain inner product spaces and orthogonality in inner product space, Normed space, Gram Schmidt Orthogonalization Process.</li> </ul>
Computer Science Paper-I Computer Hardware	<ul> <li>CO1: Define the overall organization of the microcomputer.</li> <li>CO2: Demonstrate the working of motherboard and its parts.</li> <li>CO3: Explain the functioning of ROM-BIOS services and loading DOS O.S.</li> <li>CO4: Illustrate the logical structure of Disk and memory allocation, program loading and execution.</li> </ul>

B.Sc. – III	
Paper	Course Outcome
	<b>CO5:</b> Demonstrate the installation of windows O.S. and various kind of special interrupt in PC.
Computer Science Paper-II DBMS and GUI Programming in VB	<ul> <li>CO1: To introduce DBMS concept, explain its purpose and the different data model of DBMS. Learn about the Role of DBMS in current aspects.</li> <li>CO2: Explaining concept about RDBMS and how to overcome its pitfall using decomposition and normalization Technique.</li> <li>CO3: Learn to use of RDBMS Software ORACLE also learns to execute DDL and DML command through SQL.</li> <li>CO4: Learn about GUI programming language Visual basic, its error trapping method and file handling technique.</li> <li>CO5: Learn and execute database programming method like DAO, RDO, ADO etc. in VB.</li> </ul>
Physics Lab	<ul> <li>CO1: Illustrate about the use of various measuring instruments.</li> <li>CO2: Explain I-V Characteristics of Different Electronics devices like Diode, Transistor, FET etc.</li> <li>CO3: Students will be able to recognize Application of diode and Transistor like Rectification, Oscillation and Amplification.</li> </ul>
Mathematics Lab	<ul> <li>CO1: Students understand the concept of Set theory, mathematical induction method and application, Probability and its application on daily life problems.</li> <li>CO2: Students get the knowledge about binary relations and its types, Partial order set (poset), concept Lattice and its types, Graphs and its applications like shortest path, travelling salesman problems etc.</li> <li>CO3: Getting knowledge about finite state machine and Discrete functions.</li> <li>CO4: Students understand to deal with recurrence relations and recursive algorithms and its homogeneous solutions and particular solutions.</li> <li>CO5: Students able to understand the properties of Lattice and Boolean algebra and Applications of Boolean algebra on Implementations of digital networks and switching circuits.</li> </ul>

B.Sc. – III	
Paper	Course Outcome
Computer Science Lab	CO1: Learn to execute SQL command in Oracle Software.
	CO2: Learn to write sub-queries and creating View also performs different
	operations on View.
	CO3: Know about GUI Programming.
	CO4: Execute Database programming in VB.

### **Course Outcome for M.Sc. in Mathematics**

M.Sc. (Maths) – I Sem.	
Paper	Course Outcomes
Advanced Abstract Algebra (I)	<ul> <li>CO1: Explain the concept of normal and subnormal series, solvable group, state and prove Jordan holder theorem.</li> <li>CO2: Discuss fields, extensions of fields, algebraic, transcendental, separable and inseparable extension of field.</li> <li>CO3: Identify and analyse different types of algebraic structures such as algebraically closed fields, splitting fields and finite fields.</li> <li>CO4: Discuss automorphisms of groups Galois extensions, and fixed fields and state and prove fundamental theorem of Galois theory.</li> <li>CO5: Define radical extension, solve polynomial equation by radicals and insolvability of general equation of degree 5.</li> </ul>
Real Analysis (I)	<ul> <li>CO1: To recall the theoretical concept of Sequence and Series. To Define and distinguish concept of Pointwise convergence and uniform convergence and list all its properties. To discuss about the test for uniform convergence and Mn Test and derive the Weierstrass Approximation theorem.</li> <li>CO2: To discuss about the concept of Power series and uniqueness. To write down Algebra of power series with examples of power series. To Prove the Abel's and Tauber's theorem. To analysing by Rearrangement of terms of a series, To Prove the Riemann theorem.</li> <li>CO3: To discuss about the theoretical concept of Function of several variables, Norm of Linear operators, Derivative and To Prove chain rule theorem. To write down Algebra of Limit and Continuity, Partial Differentiation with examples. To Prove the Taylor's theorem for function of several variables. To Prove the inverse and implicit function theorem.</li> <li>CO4: To discuss about the theoretical concept of Jacobians function of functions, Solve the Extremum Problems with constraints, by using Lagrange's multiplier Method. To Explain Differentiation of integrals.</li> <li>CO5: To discuss about the theoretical concept of Partitions of unity and differential forms. To Prove the Stoke's Theorem.</li> </ul>

M.Sc. (Maths) – I Sem.	
Paper	Course Outcomes
Topology	<ul> <li>CO1: Understand the properties of countable and uncountable sets.</li> <li>CO2: Recognize the meaning of topological space, including bases, subbases, subspace, and relative topology.</li> <li>CO3: Understand the notions of countable, separable space and separation axioms, together with their definitions and fundamental characteristics.</li> <li>CO4: Recognize the notion of compactness and the characteristics of continuous functions.</li> <li>CO5: Understand the idea and characteristics of connectedness and countable compactness in metric space.</li> </ul>
Advanced Complex Analysis (I)	<ul> <li>CO1: Students are equipped with the understanding of the fundamental concepts of complex variable theory and skill of contour integration to evaluate complicated real integrals via residue calculus.</li> <li>CO2: Students learn to build up relation between integration of functions along a closed contour C and numbers of poles and zeros of functions.</li> <li>CO3: Students found the easy ways to calculate the complicated integrations by using the concept of residues of functions at its poles.</li> <li>CO4: Students understand the different transformations of curves through bilinear transformation (conformal mapping) from z-plane to w-plane.</li> <li>CO5: Students get the concept of Space of analytic functions and its different properties.</li> </ul>
Advanced Discrete Mathematics Analysis (I)	<ul> <li>CO1: Define the concept of formal Logic, quantifiers, predicates and their uses in truth tables.</li> <li>CO2: Illustrate the concept of homomorphism of semi groups and monoids.</li> <li>CO3: Illustrate the concept of lattices as algebraic systems, Boolean algebras as lattices.</li> <li>CO4: Apply Boolean Algebra to switching theory (using AND, OR &amp; NOT gates).</li> <li>CO5: Explain grammars and languages.</li> </ul>

M.Sc. (Maths) – II Sem.	
Paper	Course Outcome
Advanced Abstract Algebra (II)	<ul> <li>CO1: Explain the concept of modules, Noetherian and Artinian modules, State and prove wedder burns theorem on finite division rings.</li> <li>CO2: Discuss algebra of linear transformations and characteristics roots.</li> <li>CO3: Find matrices corresponding to linear transformation and different canonical forms like triangular and Jordan canonical forms.</li> <li>CO4: Explain smith normal form, fundamental structure theorem for finitely generated modules over PID.</li> </ul>
	<b>CO1:</b> To discuss about the theoretical concept of Riemann-Stieltjes integral and
Real Analysis (II)	<ul> <li>list all its properties of the Integral. To discuss about the integration and differentiation, To Prove the fundamental theorem of Calculus. To discuss about the integration of vector-valued functions, Rectifiable curves.</li> <li>CO2: To discuss about the theoretical concept of Lebesgue outer measure. To define Measurable sets, Regularity, Measurable functions, Borel, Lebesgue measurability and non-measurable sets, Integration of Non-negative functions and General integral, Integration of Series.</li> <li>CO3: To discuss about the theoretical concept of Measures and outer measures. To analyse Extension of a measure, Uniqueness of Extension, Completion of a measure, Measure spaces, Integration with respect to a measure, Reimann and Lebesgue Integrals.</li> <li>CO4: To discuss about the theoretical concept of the Four derivatives, Lebesgue Differentiation Theorem, Differentiation and Integration.</li> <li>CO5: To discuss about the theoretical concept of Functions of Bounded variation, The Lp–spaces, convex functions, Jensen's inequality, Holder and Minkowski inequalities, Completeness of Lp, Convergence in Measure and Almost uniform convergence.</li> </ul>
General and Algebraic Topology	<ul> <li>CO1: Recognize projection maps, Tychon off product topology, and related ideas.</li> <li>CO2: Recognizing the notions of countability, compactness, and connectedness in product space.</li> <li>CO3: Comprehending the theorem associated with embedding metrication.</li> </ul>

M.Sc. (Maths) – II Sem.	
Paper	Course Outcome
	CO4: Knowing the idea of a net filter, as well as its different topological
	characteristics and how they relate.
	<b>CO5</b> : Understand fundamental group and covering space
	<b>CO1:</b> Students understand the relationship between the entire functions and
	infinite product and applications of various types of functions like gamma
	functions, zeta functions etc.
	CO2: Students get the concept of analytic continuations and its uniqueness,
	applications of schwarz's reflection principle and monodromy theorem.
	<b>CO3:</b> Getting the Concept of harmonic functions, Condition for being harmonic
Advanced Complex	and different properties of harmonic functions.
Analysis (11)	CO4: Students get ability to understand the concept of canonical product,
	Jensen's and Poisson-Jensen formulas and its applications and many other
	concepts and theorem related to entire functions.
	CO5: Students get ability to understand the Range of analytic functions,
	different concepts and theorem like Bloch's theorem. The little-Picard theorem
	etc.
	<b>CO1:</b> Illustrate the basic concept and properties in Graph Theory.
	CO2: Explain Trees and its properties. Apply Kruskal's Algorithm.
Advanced Discrete	CO3: Illustrate Dijkstra's Algorithm and Warshall's Algorithm.
Mathematics (II)	<b>CO4:</b> Illustrate the concept of Finite State Machines.
	CO5: Explain Deterministic, Non-deterministic Finite Automata, Moore and
	mealy Machines.

M.Sc. (Maths) – III Sem.	
Paper	Course Outcome
Integration Theory and Functional Analysis (I)	<ul> <li>CO1: recognize the fundamental properties of Signed measure and Explanation of Hahn decomposition theorem, Radon-Nikodym theorem.</li> <li>CO2: Discuss Lebesgue-Stieltjes integral. Define Product measures. Find Differentiation and Integration.</li> <li>CO3: Discuss Baire Measure, continuous functions with compact support, Regularity of measures on locally compact spaces. Find integration of continuous functions and Explain Riesz Markoff theorem.</li> <li>CO4: Define Normed Linear Spaces, Banach Spaces, Quotient spaces, Discuss equivalent norms, Riesz lemma, basic properties of finite dimensional normed linear space and compactness.</li> <li>CO5: Discuss weak convergence and bounded linear transformations. Explain</li> </ul>
	normed linear spaces of bounded linear transformations and illustrate dual spaces with examples. <b>CO1:</b> To discuss about the application of classified Partial Differential
Partial Differential Equations and Mechanics (I)	<ul> <li>CO1: To discuss about the application of classified Partial Differential Equations and Fundamental solution Laplace equation, Poisson equation and its solution in the sense of Green Function, Energy function, Mean value theorem and Uniqueness.</li> <li>CO2: To discuss about the conceptual application of Partial Differential Equations in the Fundamental solution of Wave equation and Fundamental solution Heat equation, Homogeneous and Non-Homogeneous Heat equation and its solution in the sense of Green Function, Energy function, Uniqueness and transport equation.</li> <li>CO3: To discuss about the theoretical concept of Generalized coordinates and its Classifications, constraints, constant of motion, holonomic and nonholonomic system, Scleronomic and rheonomic systems with examples. To derive the concept of Euler Lagrange Differential equation of Motion and Hamiltonian equation of Motion and Hamiltonian variable.</li> <li>CO4: To discuss about the theoretical concept of Poisson bracket, Jacobi's identity, Jacobi Poisson theorem. To Equation of motion with examples shortest distance, minimum revolution surface area and Brachistochrone Problem. To</li> </ul>

M.Sc. (Maths) – III Sem.	
Paper	Course Outcome
	of Motion various type, D Alembert principals and conservative systems non- conservative forces: Rayleigh dissipative function
	<b>CO5:</b> To discuss about the theoretical concept of Attraction and potential of rod, disc, to analyse and solve problems Attraction and potential of shells and sphere with examples. Surface integral of normal attraction (application & Gauss theorem) Laplace and Poisson equations Work done by self-attracting systems, Equipotential surface and solid harmonics its surface density
Object Oriented Programming and Data Structure	<ul> <li>CO1: Explain about Procedure oriented and object-oriented concepts.</li> <li>CO2: Learn the concept of inheritance and polymorphism which helps them to develop programs to solve real world problems.</li> <li>CO3: Design and implement Data structures such as linked list, stack, and queue.</li> <li>CO4: Explain about tree and graph and its applications.</li> <li>CO5: Analyse and implement various kinds of searching and sorting techniques</li> </ul>
Operations Research (I)	<ul> <li>CO1: Implement the different method of operation research in the field of industry and production companies.</li> <li>CO2: Recall the simplex method to solve linear programming based daily life problems and many other fields.</li> <li>CO3: Learn how to use parametric linear programming method to solve the problem of operation research.</li> <li>CO4: Find solution to maximize the profit and minimize the cost in different assignment distributions as well as in travelling salesman problem.</li> <li>CO5: Find the easiest method to solve shortest path problem and minimum spanning tree.</li> </ul>
<b>Programming in C</b> (with ANSI features)	<ul> <li>CO1: Illustrate the basic structure, operators and statements of C language.</li> <li>CO2: Define the simple C program, data types, operators and console I/O functions.</li> <li>CO3: Analyse the decision control statements, loop control statements and case control statements.</li> <li>CO4: Summarize the concept of operator and expression in C.</li> </ul>

M.Sc. (Maths) – III Sem.	
Paper	Course Outcome
	<b>CO5:</b> Conclude the declaration, implementation of array, pointers, function and structures.
Object Oriented Programming and Data Structure Lab	<ul> <li>CO1: Demonstrate the use of various OOPs concepts with the help of programs</li> <li>CO2: Programs to demonstrate the implementation of function and operator overloading, templates.</li> <li>CO3: Exemplify and implement stack, queue and list ADT to manage the memory using static and dynamic allocations</li> <li>CO4: Develop and compare the comparison- based search algorithms and sorting algorithms</li> </ul>
Programming in C (with ANSI features) Lab	<ul> <li>CO1: Perform Control sequence of the program and give logical outputs.</li> <li>CO2: Define the Store different data types in the same memory.</li> <li>CO3: Illustrate Repeat the sequence of instructions and points for a memory location.</li> <li>CO4: Conclude the Manage I/O operations.</li> <li>CO5: Organize the implement strings in your C program</li> </ul>

M.Sc. (Maths) – IV Sem.	
Paper	Course Outcome
Integration Theory and Functional Analysis (II)	<ul> <li>CO1: Explain the concept of uniform boundedness in normed linear spaces and Banach spaces.</li> <li>CO2: Discuss and implement fundamental theorems in normed linear spaces.</li> <li>CO3: Recall the concept of Inner product spaces. Explain Hilbert spaces, orthonormality and its properties.</li> <li>CO4: Explain the concept of projection and reflexivity of Hilbert spaces.</li> <li>CO5: Define and apply general properties of linear operators in Hilbert space.</li> </ul>
Partial Differential Equations and Mechanics (II)	<ul> <li>COI: To discuss about the conceptual application of Nonlinear First Order PDE-Complete Integrals, Envelopes, Characteristics. To analyse and solve problems related to Hamilton-Jacobi Equations (Calculus of Variations, Hamilton's ODE, Legendre Transform, Hopf-Lax Formula, Weak Solutions, Uniqueness), Conservation Laws (Shocks, Entropy Condition, Lax Oleinik formula, Weak Solutions, Uniqueness, Riemann's Problem, Long Time Behaviour)</li> <li>CO2: To discuss about the conceptual application of Representation of Solutions-Separation of Variables, Similarity Solutions (Plane and Travelling Waves, Solutions, Similarity under Scaling). To analyse and solve problems related to Fourier and Laplace Transform, Hopf-Cole Transform, Hodograph and Legendre Transforms, Potential Functions.</li> <li>CO3: To discuss about the theoretical concept of Asymptotic (Singular Perturbations, Laplace's Method, Geometric Optics, Stationary Phase, Homogenization), To analyse and solve problems related to Power Series (No characteristic Surfaces, Real Analytic Functions, Cauchy Kovalevskaya Theorem).</li> <li>CO4: To discuss about the theoretical concept of Hamilton's Principle. Principle of least action. Poincare Certain Integral invariant. To analyse and solve problems related to Whittaker's equations and Jacobi's equations.</li> </ul>

M.Sc. (Maths) – IV Sem.	
Paper	Course Outcome
	transformation in terms of Lagrange brackets and Poisson brackets, invariance
	of Lagrange brackets and Poisson brackets under canonical transformations.
	<b>CO1:</b> Learn the role of database system, its architecture and data modelling.
Operating System	<b>CO2:</b> Explain the concept of relational algebra and relational calculus.
and Database	CO3: Learn to write the query for SQL DML/DDL commands.
Management System	CO4: Explain the basic concepts of operating system.
	CO5: State the knowledge of I/O management
	<b>CO1:</b> Investigate the concept of dynamic programming problems.
	<b>CO2:</b> Formulate and solve of linear programming model of game theory.
	CO3: Describe integer programming problem and solve using optimization
Operations Research	techniques.
(11)	CO4: Acquire knowledge about the queuing system. Formulate and solve the
	queuing theory models.
	<b>CO5:</b> Extend the knowledge of programming problem from linear
	CO1: Illustrate the data storage classes and ANSI rules for the syntax and
	semantics of the storage-class.
Programming in C	<b>CO2:</b> Define the pointer arithmetic and various sorting algorithms.
(II)	<b>CO3:</b> Determine the declare and call functions and the C processor.
	<b>CO4:</b> Summarize structure and union and dynamic memory allocation.
	<b>CO5:</b> Analyse the I/O file operators, standard library for I/O.
	<b>CO1:</b> Illustrate the basic structure, operators and statements of C language.
	CO2: Define the simple C program, data types, operators and console I/O
Programming in C	functions.
(with ANSI features)	<b>CO3:</b> Analyse the code reusability with functions and pointers.
Lub	<b>CO4:</b> Summarize the basics of file handling mechanisms.
	<b>CO5:</b> Conclude the uses of pre-processors and various memory models.
Operating System	CO1: Implement Basic DDL, DML and DCL commands
and Database Management System Lab	<b>CO2:</b> Understand Data selection and operators used in queries and restrict data
	retrieval and control the display order
	CO3: Use Aggregate and group functions to summarize data



Aff.: Pt. Ravishankar Shukla University, Raipur (C.G.) and recognized under section 2(f) of the UGC Act. 1956) Under the aegis of Disha Education Society

# Department of Education

# Course Outcome

ADDRESS: Disha Park Campus, Ram Nagar-Kota Marg, Behind NIT and Hotel Piccadilly, Raipur (C.G.) 492010 E-mail: principal.dishacollege@dishamail.com Website: www.dcindia.iN



### **DEPARTMENT OF EDUCATION**

Teaching has always been one of the most popular career choices among students. However, to become a teacher at pre-nursery, nursery, primary, secondary and senior secondary levels in schools or to become a professor at the college/university level, aspirants need to possess the right qualifications.

B.Ed. is the bachelor's degree undertaken to take up teaching as a profession in schools. However, it is worth knowing that a B.Ed. or Bachelor of Education is not an undergraduate degree and to pursue this course one needs to have completed his/her graduation. Thus, B.Ed. is a professional course and right after completing this course, students can get a job at the school level. However, it may be noted that those who wish to become school teachers of senior secondary classes need to have a post-graduation degree before pursuing a B.Ed.

This is an interdisciplinary course (Post Graduate Diploma in Yoga Education and Philosophy) introduced under the innovative programme of the University Grants Commission. The course is aimed at disseminating the theoretical and practical knowledge of Patanjali's Yoga Sutra, their therapeutic values and relevance in maintenance of sound, body and mind.

### VISION

To be a leading institution in the field of teacher education, dedicated to producing competent and compassionate educators who positively impact the future of education.

#### **MISSION**

Provide high-quality teacher education programs that align with current educational standards and practices. Foster a learning environment that encourages critical thinking, creativity, and lifelong learning. Prepare teachers who are not only knowledgeable but also ethically and socially responsible. Engage in research and innovation to contribute to the improvement of education. Collaborate with schools, communities, and stakeholders to enhance the quality of teacher preparation and student learning. Strive for excellence in all aspects of teacher education and continuous improvement.

## **Department of Education Course Outcome for B.Ed.**

B.Ed. – I Sem.	
Paper	Course Outcomes
Philosophical Perspective of Education	<ul> <li>CO1: Define relationship between Philosophy and Education and implication of Philosophy on Education</li> <li>CO2: Describe importance and role of education to the field of education</li> <li>CO3: Discuss the contribution of great Indian educators to the field of education.</li> <li>CO4: Explain the contribution of great Western educators and Philosopher to the field of education.</li> <li>CO5: Critically analysis the contemporary thought of education and illustrate</li> </ul>
Nai Talim: An Experimental Learning	<ul> <li>the globalization and modernization of Education</li> <li>CO1: Recall the Basic Education of Gandhiji with new concept nai talim</li> <li>CO2: Discuss the course outline at primary, middle and secondary level.</li> <li>CO3: Classify the agencies of school and society and defining self-help group.</li> <li>CO4: Explain the importance of renewable energy for current perspective.</li> </ul>
	<b>CO5:</b> Listing Communicable and non-communicable diseases and explaining about its prevention.
Pedagogy I Pedagogy of Physical Science	<ul> <li>CO1: Define nature of physical science and to relate content with daily life.</li> <li>CO2: Identify aesthetic value of physical and chemistry and to relate science physics and chemistry education with natural environment.</li> <li>CO3: Recognize Different activities for exploring learner and to use material from local resources.</li> <li>CO4: Analyse Print and Non-Print material and to use in various area of physical science.</li> <li>CO5: Choose appropriate method to teach physical science and chemistry and to use communication in collaborating learning and experimental learning in science physics and chemistry.</li> </ul>
Pedagogy I (Pedagogy Hindi)	CO1: भाषा को प्रत्यारमरण करेंगे बोध विकसित होगा।

B.Ed. – I Sem.	
Paper	Course Outcomes
	CO2: भाषा की विभिन्न अभिव्यक्तियाँ के बारिकियों को जानेगे एवं वर्णन कर सकेंगे।
	CO3: भाषा शिक्षण की प्रचलित विधियों को विश्लेषित कर पायेंगे।
	CO4: पाठ पढ़ाने के बाद उससे संबंधित जानकारी देकर नैतिकता पूर्ण बातचीत से सार
	बताना।
	CO5: हिन्दी के विविध विधा कविता, कहानी, नाटक के आधार पर गतिविधियों का
	निर्माण कर रोचक बनाना।
	CO1: Difference between natural science and Social Science
	<b>CO2:</b> Identifying primary and secondary data and make a list of it.
Pedagogy I	CO3: To construct curriculum based on the objective and able to clarify the
Pedagogy of Social	curriculum of CG board and CBSE board.
Science	<b>CO4:</b> Define the process of curriculum construction and distinguishes between
	national and State level Curriculum.
	CO5: Classify Economic System and sustainable development.
	<b>CO1:</b> Define the nature & scope of biological science
	<b>CO2:</b> Classify the specific objectives of different content areas in biology.
Pedagogy I	CO3: Recognize different activities for exploring learner through generating
Pedagogy of	discussion.
<b>Biological Science</b>	CO4: Analysis of text book and biology syllabus.
	<b>CO5:</b> Formulating meaningful inquiry approach, problem solving situations,
	investigatory and discovery approaches.
	<b>CO1:</b> Describe the role and importance of translation.
	<b>CO2:</b> Develop a good understanding of the concepts in language teaching.
	<b>CO3:</b> Develop basic language skill as listening, speaking, reading and writing
	and integrate them for communicative nurnose
Pedagogy I	and integrate them for communicative purpose.
Pedagogy of English	<b>CO4:</b> Critically review and use appropriately different approaches and method
	of teaching English as second Language.
	<b>CO5</b> : Discuss the importance of home Language and School language and the
	role of mother tongue in education

B.Ed. – I Sem.	
Paper	Course Outcomes
Pedagogy I (Pedagogy of Mathematics)	<ul> <li>CO1: Define mathematical theorem and relate mathematical knowledge with daily life situation.</li> <li>CO2: Relate the subject matter to the student's field of experience and intuition.</li> <li>CO3: Write instructional objectives for teaching of Mathematics at the upper primary level and Secondary level.</li> <li>CO4: Formulate pedagogical analysis of different topics in mathematics for developing textbooks at different stages of schooling.</li> <li>CO5: Use different mind maps for different complex concept of algebra, trigonometry and arithmetic's of mathematics.</li> </ul>

B.Ed. – II Sem.	
Paper	Course Outcome
Sociological Perspective of Education	<ul> <li>CO1: Define Social diversity in the state and the classroom and its implication.</li> <li>CO2: Explain the principle and Social Stratification according to the Karl Marx, Max weber, and P.Bpoudieu</li> <li>CO3: Discuss the opportunities, discrimination, exclusion and stratification.</li> <li>CO4: Describe the National integration and emotional integration.</li> <li>CO5: Clarify the meaning of privatization in education.</li> </ul>
Curriculum and Knowledge	<ul> <li>CO1: Define nature of curriculum and its relation to syllabi, text books and class room practices.</li> <li>CO2: Explain the nature of knowledge and its sources.</li> <li>CO3: Describe basis of moral education in school.</li> <li>CO4: Compare traditional craft and modern industrial work.</li> <li>CO5: Explain the role of evaluation and assessment in curriculum development.</li> </ul>
Lerner and Learning Process	<ul> <li>CO1: Explain human development with special reference to adolescents.</li> <li>CO2: Explain factor affecting learning and its theories.</li> <li>CO3: Discuss the various theories of Intelligence.</li> <li>CO4: Develops skills for effective teaching learning process and use of psychometric assessment.</li> <li>CO5: Define history of Indian psychology and cognitive theories.</li> </ul>
Elective -I Educational Administration	<ul> <li>CO1: Define Meaning, concept, scope and functions of Educational Administration</li> <li>CO2: Describe the role of the headmaster and the teacher in school management.</li> <li>CO3: Explain the Importance of communication and its possible barriers in educational administration.</li> <li>CO4: Prepare the schedule of various activity of school management and identify the growth and development of the school</li> <li>CO5: Illustrate the problem faced by school management and critically analyses the administrative scenario in relation to the functioning of the secondary school of area</li> </ul>
Elective-I Educational Mental Measurement	<b>CO1:</b> Define concept of measurement and Explain the Scales of measurement.

B.Ed. – II Sem.	
Paper	Course Outcome
	CO2: Formulate table from raw Score and perform graphical representation of
	data.
	CO3: Use Techniques of test conduction and interpret the process of test
	Conduction.
	<b>CO4:</b> Find the correlation of scores and use of standard scores.
	<b>CO5:</b> Explain the process of test construction and standardization of test.

B.Ed. – III Sem.	
Paper	Course Outcome
Pedagogy-II Pedagogy of Hindi	CO1: सृजनात्मक भाषा के विविध रूप और अभिव्यक्ति को जान सकेगे। CO2: साहित्यिक अभिव्यक्ति के विविध रूप एवं भाषा व साहित्य में सम्बंध की वयाख्या कर सकेगे। CO3: पाठ्यक्रम का अर्थ, सिद्धांत एवं पाठ्यचर्चा, पाठ्यक्रम तथा पाठ्यपुस्तक के सबंध को स्पष्ट कर सकेगे। CO4: सहायक शिक्षण सामग्री के प्रकार व महत्व एवं सहसंज्ञानात्मक गतिविधियों क रूपरेखा पर चर्चा कर सकेगे। CO5: भाषा शिक्षण में मूल्याकंन का अर्थ प्रकार एवं विधियों को विश्लेषित कर
Pedagogy-II Pedagogy of Mathematics	<ul> <li>CO1: Define planning for teaching learning mathematics.</li> <li>CO2: Classify the learning resources in Mathematics and pooling of learning in different level.</li> <li>CO3: Analyse assessment framework, construct variety of questions and question paper.</li> <li>CO4: Identify learner's strengths and weaknesses in mathematics.</li> <li>CO5: Select various type of in-service program for professional growth.</li> </ul>
Pedagogy-II Pedagogy of physical Science	<ul> <li>CO1: Define learning resources in physical science.</li> <li>CO2: Use performance-based assessment developing tools and techniques of assessment for physical science subject.</li> <li>CO3: Organize laboratory experiences for learning process.</li> <li>CO4: Recognise the application of physical science and chemical phenomenon in day-to-day life and human welfare.</li> <li>CO5: Define roles of reflective practices in professional development of physics and chemistry teachers.</li> </ul>
Pedagogy II Pedagogy of Biological science	<ul><li>CO1: use of learning resources designing teaching learning experiences</li><li>CO2: Classify learning resources in biological Sciences.</li><li>CO3: Define tools and techniques of assessment for learning biological science.</li></ul>

B.Ed. – III Sem.	
Paper	Course Outcome
	<b>CO4:</b> Identifying various Co- curricular activities for lifelong learning.
	<b>CO5:</b> Define programme for development of biology teacher.
	CO1: Define the Different roles of Language
	<b>CO2:</b> Explain the teaching Method of poetry, Prose and Drama
	<b>CO3:</b> Develop an Insight into the symbiotic relationship between curriculum
Pedagogy-II	syllabus and text books
Pedagogy of English	CO4: Discuss the process of language assessment
	CO5: Choose prepare and use appropriate audio-visual teaching aids for
	effective teaching of English.
	CO1: Write learning strategies and skill development of Indian history.
	<b>CO2:</b> Explain the structure and functions of government in the union.
Pedagogy II	<b>CO3:</b> Formulate the various type of question related to social science.
Pedagogy of Social	CO4: Analyse the characteristics of a good text book in social science.
Science	CO5: Discuss the women's rights in society in historical and economic
	background.
	CO1: Define Difference between Autonomy and accountability
	CO2: Explain the importance of school, modes of education
Nai Talim: Skill based Learning	CO3: Describe the models of art, craft for entrepreneurship for self -reliance
	CO4: Discuss the integrating reflection in curriculum and pedagogy fosters
	deeper understanding and meta cognitive skill in learners.
	CO5: Develop national integration through Nai talim

B.Ed. – IV Sem.	
Paper	Course Outcome
Gender School and Society	<ul> <li>CO1: Define the concept of gender and gender roles issues in society.</li> <li>CO2: Explain and compare the role of education, school, peers, teacher curriculum and text book in bring up gender qualities</li> <li>CO3: Describe the gender and sexuality, Sexual harassment, Abuse and safety at School and home</li> <li>CO4: Define psychological and sociological perspective of gender.</li> <li>CO5: Explain the policies and management strategies for change in context of gender.</li> </ul>
	<b>CO1:</b> Explain the concept of assessment and evaluation, purpose and objective
Assessment in Learning	<ul> <li>cor: Explain the concept of assessment and evaluation, purpose and objective of evaluation and critical review of current evaluation practices.</li> <li>co2: Solve problem by manipulating tools and symbols in different learning situation.</li> <li>co3: Explain the type of test and constructing portfolio qualitative and quantitative aspects.</li> <li>co4: Formulate tasks and questions and demonstrate the process of thinking</li> <li>co5: Explain in progress report place of marks, grades and qualitative description.</li> </ul>
Elective -II Teaching of Values	<ul> <li>CO1: Discuss the biological, psychological, social aspect of value.</li> <li>CO2: Explain the classification of values under different types.</li> <li>CO3: State the social, economic, moral and religious evils corresponding to values.</li> <li>CO4: Discuss the measures to resolve the value conflict.</li> <li>CO5: Explain the evolution tools and techniques for value.</li> </ul>
Elective-II Computer Education	<ul> <li>CO1: Explain the utility of computer in the field of Education.</li> <li>CO2: Discuss various data storage devices and compare floppy disk, hard disk and compact disk.</li> <li>CO3: Explain the important features of word processing in Education</li> <li>CO4: Define database management system.</li> <li>CO5: Discuss the needs and importance of joyful learning.</li> </ul>

### **Department of Education** Course Outcome for P.G.D.Y.E.P.

PGDYEP – I Sem.	
Paper	Course Outcomes
Paper - I Theoretical Yoga Vijnan	<ul> <li>CO1: Define yoga and its use in daily life.</li> <li>CO2: Classify the different types of yogasan of yogasutra.</li> <li>CO3: Inter-print kinds of yoga: Bhakti yoga, Karma yoga, Mantra yoga and Raj yoga.</li> <li>CO4: Explain the study of Ida, Pingala, Sushumna, Seven Chakras, Five Koshas and Five Pranas.</li> <li>CO5: Analyse the contemporary Yogis-Shri Aurobindo, Satyananda and Shivananda.</li> </ul>
Paper - II Applied Yoga Vijnan	<ul> <li>CO1: State importance of Yoga and Health in life.</li> <li>CO2: Use practice of Yoga in daily routine.</li> <li>CO3: Recognize the effect of Yoga upon bodily functions. Role of Yoga asanas in modern living.</li> <li>CO4: Write the Physiology constitution nervous system, Respiratory, Circulatory system and Endocrine glands.</li> <li>CO5: Define mind and mental process.</li> </ul>

PGDYEP – II Sem.	
Paper	Course Outcomes
Paper - I Yoga Philosophy	<ul> <li>CO1: Define the subject matter of yoga philosophy</li> <li>CO2: Explain different system of philosophy.</li> <li>CO3: Yoga sutra nature of chitta vrittis and bhoomis.</li> <li>CO4: Identify hatha yoga kundalini Jnana laya.</li> <li>CO5: Analysis psychometric disorder and their management through yoga.</li> </ul>
Paper - II Hatha Yoga	<ul> <li>CO1: Define hatha pradipika and gherand Samhita.</li> <li>CO2: Explain pranayama and methods of pranayama.</li> <li>CO3: Identify method of shatkarma and shuddhikriya.</li> <li>CO4: Write bandha and mudras method and its benefit.</li> <li>CO5: Analys different systems of meditation</li> </ul>