



Shri Sairaj Shikshan Pratishthan's

Reg. No. ID No. PU/NS/CS/139/2009

# Vishwalata Arts, Commerce & Science College

AISHE ID : C-41471  
College Code : 892

BHATGAON, Tal. Yeola, 423401 Dist. Nashik

Mob. 9545126722

\* Affiliated to Savitribai Phule Pune University. \* NAAC Accredited C Grade (1st Cycle 2022) \* ISO 9001:2015

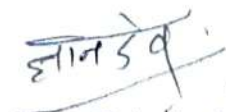
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2.6.1 Progame Outcomes, Program Specific Outcomes and Course Outcomes For all program offered by the institution are stated and displayed on website and communicated to teachers and students.

Sr.No.	Progame Namre	Program Code
1	B.COM	12013
2	B.B.A.(I.B.)	10316
3	B.B.A.	10113
4	B.B.A.(C.A.)	10216
5	B.SC (C.S.)	11013
6	B.SC (Plain)	11713
7	M.COM	25013
8	M.SC (C.S.)	21613



  
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Vishwalata Arts Commerce &  
Science College Bhatgaon,  
Tal. Yeola, Dist. Nashik.

Sr. No.	Course	Course outcomes
1	FYBCom : Financial Accounting.	1. imparted the knowledge of various accounting concepts 2. instilled the knowledge about accounting procedures, methods and techniques. 3. acquainted them with practical approach to accounts writing by using software package.
	FYBCom : Business Economics (Micro)	1. exposed Students of Commerce to basic micro economic concepts and inculcate an analytical approach to the subject matter. 2. Stimulated the student interest by showing the relevance and use of various economic theories. 3. Applied economic reasoning to problems of business.
	FYBCom : Business Mathematics and Statistics	1. prepared for competitive examinations 2. Understood the concept of Simple interest, compound interest and the concept of EMI. 3. Understood the concept of shares and to calculate Dividend 4. Understood the concept of population and sample. 5. used frequency distribution to make decision. 6. To understand and to calculate various types of averages and variations. 7. Understood the concept and application of profit and loss in business. 8. Solved LPP to maximize the profit and to minimize the cost. 9. Used correlation and regression analysis to estimate the relationship between two variables. 10. Understood the concept and techniques of different types of index numbers.
	FYBCom : Banking and Finance [Fundamentals	1. the students acquainted with the fundamentals of banking. 2. developed the capability of students for knowing banking concepts and operations. 3. students are aware of banking business and practices. 4. Gets thorough knowledge of banking operations. 5. enlightened with



	of Banking	the new concepts introduced in the banking system.
	FYBCom : Marketing and Salesmanship [Fundamentals of Marketing]	1) General Objective of the Paper. a) created awareness about market and marketing. b) established link between commerce/Business and marketing. 2) Core Objectives of the paper. a) understood the basic concept of marketing. b) To understand marketing philosophy and generating ideas for marketing research. c) knows the relevance of marketing in modern competitive world. d) developed an analytical ability to plan for various marketing strategy.
2	SYBCom : Business Communication.	1. understands the concept, process and importance of communication. 2. Developed awareness regarding new trends in business communication. 3. Got knowledge of various media of communication. 4. Developed business communication skills through the application and exercises.
	SYBCom : Corporate Accounting	Developed awareness about Corporate Accounting in conformity with the provisions of Companies Act and Accounting as per Indian Accounting Standards. 1. Made aware the students about the conceptual aspect of corporate accounting 2. To enable the students to develop skills for Computerized Accounting
	SYBCom : Business Economics (Macro)	1. the students are familiarized with the basic concept of Macro Economics and application. 2. Understands the behavior of the economy as a whole. 3. Understands the relationship among broad aggregates. 4. Applies economic reasoning to problems of the economy.
	SYBCom : Business Management	1. Provided basic knowledge & understanding about business management concept. 2. Provided an understanding about various functions of management.

SYBCom : Elements of Company Law	1) Imparted students with the knowledge of fundamentals of Company Law. 2) Updates the knowledge of provisions of the Companies Act of 2013. 3) Apprises new concepts involving in company law regime. 4) Acquainted the students with the duties and responsibilities of Key Managerial Personnel. 5) understands the provisions and procedures under company law.
SYBCom : Business Administration	1. Understands basic knowledge about various forms of business organizations 2. Gets acquainted the students about business environment and its implications thereon. 3. Students aware with the recent trends in business
SYBCom : Cost and Works Accounting	Understands 1. Basic Cost concepts. 2. Elements of cost. 3. Ascertainment of Material and Labour Cost.
3	<p data-bbox="187 1129 391 1423">TYBCom : Business Regulatory Framework (Mercantile Law)</p> <p data-bbox="391 1129 1240 1423">1. Gets acquainted with the basic concepts, terms &amp; provisions of Mercantile and Business Laws. 2. Develops the awareness among the students regarding these laws affecting business, trade and commerce.</p>
	<p data-bbox="187 1423 391 1692">TYBCom : Advanced Accounting.</p> <p data-bbox="391 1423 1240 1692">Gets knowledge of various accounting concepts To instill the knowledge about accounting procedures, methods and techniques. acquainted with practical approach to accounts writing by using software package. T</p>



TYBCom : Indian & Global Economic Development	1) exposed to a new approach to the study of the Indian Economy. 2) Analyzes the present status of the Indian Economy. 3) understands the process of integration of the Indian Economy with other economics of the world. 4) acquainted with the emerging issues in policies of India's foreign trade.
TYBCom : Auditing & Taxation	1. acquainted about the concept and principles of Auditing, Audit process, Assurance Standards, Tax Audit, and Audit of computerized Systems. 2. gets knowledge about preparation of Audit report. 3. understands the basic concepts and acquires knowledge about Computation of Income, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.
TYBCom : Business Administration II	Acquainted with basic concepts & functions of HRD and nature of Marketing functions of a business enterprise.
TYBCom : Cost and Works Accounting II	1. Gets Knowledge about the concepts and principles Application of Overheads 2. Anderstands various methods of costing and their applications
TYBCom : Business Administration III	Knows the basic concepts in finance and production functions of a business enterprise.
TYBCom : Cost and Works Accounting III	1 Aware of costing techniques. 2 trains as regards concepts, procedures and legal Provisions of cost audit.



  
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Sr.No	Class	Course	Course Outcomes (Cos)
1	FYBBA-IB	101- Indian Business Environment	This course enables students to
			1) To develop knowledge base of environmental factors affecting business.
			2) To make students aware to environmental problems related to business and commerce.
		102-Communication Skills & Personality	3) To inculcate values of Environmental ethics amongst the students.
			1) To understand the concept, process and importance of Communication.
			2) To gain knowledge of media of communication.
			3) To develop skills of effective communication - both written and oral.
			4) To help students to acquaint with application of communication skills in the world of business.
			5) To understand the concept of personality and personality development and its significance.
		103- Micro Economic Analysis	6) To understand and develop various traits required for personality development.
			1) To expose basic microeconomic concepts to students of international business.
			2) To provide a method/ approach to help draw correct conclusions/ solve economic problems.
		104- Business Accounting.	3) To understand, explain and quantify the mechanism by which the total amount of resources possessed by society is allocated among alternative uses.
			1) To Impart the Knowledge of Basic concepts,
			2) To provide basic knowledge of important books of Accounting, preparation of various financial statements.
105- Principles & Practice of Management	3) Level of Knowledge: Basic understanding of the subject.		
	1) To provide a basis of understanding to the students with reference to working of business organization through the process of management.		
	2) On completion of the syllabi, the student will understand the basic principles of management -will acquaint himself with management process, functions and principles.		
106- Business Mathematics.	3) Students will also get the idea about new developments in management		
	1) To understand the concepts of ratio, proportion and percentage.		
		2) To understand the concept and application of	



			profit and loss in business.
			3) To use the concept of EMI.
			4) To understand the concept of stock exchange and to calculate Dividend.
			5) To understand applications of matrices in business.
			6) To understand useful functions in business and economics.
		201- Cost Accounting	1) To Impart the Knowledge of Basic cost concepts, element of cost & Preparation of Cost Sheet.
			2) To provide basic knowledge of important Methods & Techniques of costing.
			3) Level of Knowledge: Basic understanding of the subject.
		202- Elements of Human Resource Management	1) To understand the roles of HR Manager.
			2) To understand recruitment and selection procedure
			3) To understand training and development.
			4) To aware students about various cases/ problems of business world how to tackle.
		203- Macro Economic Analysis	1) To study the behavior of the economy as a whole.
			2) To study relationships among broad aggregates.
			3) To apply economic reasoning to macroeconomic policy.
		204- Principles of Marketing	1) To study & critically analyze the basic concepts in marketing & to cater the needs of marketing industries
		205- Business Statistics.	1) To understand the concept of population and sample.
			2) To use frequency distribution to make decision.
			3) To understand and to calculate various types of averages and variation.
			4) To use regression analysis to estimate the relationship between two variables.
			5) To solve LPP to maximize the profit and to minimize the cost.
		206- IT in Business Operations	1) To Know the Fundamentals of Computers
			2) To understand how to use Computer applications in Business.
3	SYBBA-IB Semester-III	301- International Business Environment	1) To make the students aware about globalization and environmental consequences.
			2) To create awareness about dimensions of eco-friendly environment.
			3) To gain knowledge about global warming and environmental ethics.
		302- Production &	1) To impart knowledge regarding the process of

		Operations Management	production.
		303- International Economics	1) To provide a comprehensive understanding of the concepts of international economics. 2) To develop theoretical tools to understand current international issues and their impacts on business
		304- International Marketing	1) To familiarize the student to understand the international environment and policies 2) To enable the students to acquire necessary skills to deal in international market
		305- Foreign Language Paper I.: French.	1) Students should get acquainted with the basic sentence patterns of French language so that they can communicate in French if required. 2) The students should be able to read, write, understand and speak French with limited vocabulary.
		305- Foreign Language Paper I.: German	1) Students should get acquainted with the basic sentence patterns of German language so that they can communicate in German if required. 2) The students should be able to read, write, understand and speak German with limited vocabulary.
		306- Management Accounting.	1) To impart basic knowledge of Management Accounting.
4	SYBBA-IB Semester-IV	401- FOREIGN EXCHANGE OPERATIONS	1) To provide a comprehensive understanding of the concepts of foreign exchange rates. 2) To provide practical procedural aspects of banks and other institutions connected with foreign exchange.
		402- International Business in Services Sector	1) The main objective of the course is to highlight the distinctive features, operations of the services in the context of international business. 2) To give and understanding as to analyze the opportunities involved in trade in services at the international level.
		403- INTERNATIONAL AGRICULTURAL BUSINESS	1) To make the students aware of the national and international agricultural scenario. 2) To develop an awareness among students about exim policy and agri marketing.
		404- Business Taxation	1) To understand the basic concepts and definitions under the Income Tax Act,1961 & basic clarifications regarding Indirect Taxation 2) To Acquire knowledge about Computation of Income under different heads of Income of Income Tax Act,1961.



			3) To Acquire Knowledge about the submission of Income Tax Return, Advance Tax, Tax deducted at Source, Tax Collection Authorities.
			4) To make students Competent enough to take up to employment as Tax planner.
		405-Foreign Language Paper II	1) Students should get acquainted with the basic sentence patterns of French language so that they could communicate in German if required.
			2) The students should be able at the end of course to read, write, understand and speak French with limited vocabulary.
			3) To give basic relating French as a commercial language.
			4) To create awareness of prospects of learning French for International Trade.
		405-Foreign Language Paper II	1) Students should get acquainted with the basic sentence patterns of German language so that they could communicate in German if required.
			2) The students should be able at the end of course to read, write, understand and speak German with limited vocabulary.
		406-Business Exposure	1) To introduce to the students to the general nature and structure of international business.
			2) To enhance the awareness of the students towards study and use of Trade and Industry directories, business websites and published data and information relating to Indent House, International Business Transactions, Foreign Exchange Department of the Bank, Foreign trade Brokers, Agents, Agri business etc.
5	TYBBA-IB Semester-	501- Business Ethics	1) To impart knowledge of Business Ethics to the Students.
			2) To impart knowledge of various Business Ethics practices.
		502- Business Law.	1) To gain Understanding of basic legal terms and concepts used in law pertaining to management of Business.
			2) To comprehend applicability of legal principles to situations in business by referring to few decided leading cases.
			3) To bestow confidence in students to deal with situations involving legal issues in commercial Transactions.
		503- International Relations	1) To know and understand foreign affairs & global issues with international business system.

			2) To help students understand the background for conducting international trade in the constantly changing global market.
		504- International Banking & Finance	1) To acquaint students with Global Banking Practices & various methods for financing International trade.
		505- Business Reporting & Analysis.	1) To develop among students abilities to analyze & interpret various Economic Factors that affect Business decision making. Similarly to understand reporting pattern followed in corporate sector as a part of MIS
		506- E- Commerce Technology	1) To develop students to use of technology for doing business in domestic and international market.
6	TYBBA-IB	601- Import Export Procedure.	1) To develop students for starting their own business setups. 2) To understand various essential for doing import export business.
		602- International Business Law.	1) To create awareness amongst students about international laws. 2) To understand International Institutions, their functions & Role in International Economic Law, International Trade.
		603- Study of Global Economics	1) To understand the functions of IMF & World Bank. 2) To understand the position of India in global market.
		604- International Project Management	1) To understand students about the importance of project management 2) To make students to be able to handle big projects.
		605- Supply Chain & Logistics Management	1) To make students able to tackle business situations through various requisites of SC&LM.
		606- Research Methodology & Project	1) To create interest amongst students for genuine research work. 2) To improve creativity, thinking ability, innovation and learning habit for overall development.



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**Courses offered – Under-Graduate Bachelor of Business Administration-**

Sr.No	Class	Course	Course Outcomes (Cos)
1	FYBBA-	SEM I - 101- Business organisation system	1) Understand the basic concepts in commerce, trade and industry. He will be exposed to modern business world.
			2) Understand modern business practices, forms, procedures and functioning of various business organizations.
			1) To understand the concept, process and importance of communication.
			2) To gain knowledge of media of communication.
		102-Communication Skills	3) To develop skills of effective communication - both written and oral.
			4) To help students to acquaint with application of communication skills in the business world.
			1) To management the knowledge of various accounting concept
			2 ) To install the knowledge about accounting procedures method and techniques
		103- Business Accounting.	3) To enable the student to develop skill for computerised accounting
			1) To expose students to basic micro economic concepts.
			2) To apply economic analysis in the formulation of business policies.
			3). To use economic reasoning to problems of business.
		104- Business Economics (micro)	4) To use economic reasoning to problems of business.
			1) To understand the concepts of ratio , proportion and percentage.
			2) To understand the concept and application of profit and loss in business.
			3.To use the concept of EMI.(Equated Monthly Installment)
105- Business mathematics	4. To understand the concept of stock exchange and to calculate Dividend.		
106- Business demography & environmental studies			

		<p>1) To develop knowledge base for demographic and environmental factors affecting Business.</p> <p>2) To make the students aware of environmental problems related to Business and Commerce.</p> <p>3) To make the students aware of environmental problems related to Business and Commerce.</p>
		<p>1) To provide a basis of understanding to the students with reference to working of business organization through the process of management.</p>
	SEM II 201- principles of management	<p>2) To understand the basic management function</p>
	202- Principles of marketing	<p>1) To study &amp; critically analyze the basic concepts in marketing &amp; to cater the needs of marketing industries.</p> <p>2) To understand the concept of population and sample.</p> <p>3) To use frequency distribution to make decision.</p>
		<p>1) To providing understanding of nature, importance, structure of finance related areas and to impart knowledge regarding source of finance for a business.</p>
	203- Principles of finance	<p>2) To understand basic concept of finance</p>
		<p>1) To impart the knowledge of basic cost concept, element of cost</p> <p>2) To impart knowledge regarding costing techniques</p>
	204- basic of cost accounting	<p>3) To provide knowledge about the concept and principles of application of overheads.</p>
	205- Business Statistics.	<p>1) To understand the concept of population and sample.</p> <p>2) To use frequency distribution to make decision.</p> <p>3) To understand and to calculate various types of averages and variation .</p> <p>4) To use regression analysis to estimate the relationship between two variables</p>
	206- Business Informatics	<p>1) 1) To Know the Fundamentals of Computer</p> <p>2) To Understand how to use Computer applications in day to Day Applications.</p>



3	SYBBA- Semester- III	SSEM III -301- Personality development	1) To make the students aware about the dimensions and importance of effective personality
			2) To make the students aware about the various dynamics of personality development
			3) To make the students aware about the various dynamics of personality development .
		302- Business ethics	1)To impart knowledge of Business Ethics to the students.
		303- Human resource management & organisation behaviour	2) To promote Ethical Practices in the Business
			1) To introduce to the students the functional department of human resource management and acquaint them with planning, its different functions in an organisation.
		304- management accounting	2) To introduce the human resource processes that are concerned with planning, motivating and developing suitable employees for the benefit of the organisation
			1) To impart basic knowledge of Management Accounting.
		305- Business economics (micro)	2) To know the implications of various financial ratios in decision making.
			1) To study the behavior of working of the economy as a whole.
IT in management	2) To develop an analytical framework to understand the inter-linkages among the crucial macroeconomic variables.		
	1) To understand the role of IT in Management		
	2. To understand the basics of operating systems.		
4	SYBBA- Semester- IV	SEM IV 401-Production and operation management	1) To provide goods and services at the right time, at the right place at the right manufacturing cost of the right quality.
			2) To identify the role of operation function.
			3) To understand the external and internal effects of five operation performance objectives
			1) To impart the students with the knowledge about complexities between labour and management relationship

	402- Industrial relation and labour law	<p>2) To make the students aware about mechanisms of Industrial Dispute and friendly interventions to deal with employee-employer problems.</p> <p>3) To impart the students with the knowledge of laws &amp; how law affects the industry &amp; labour.</p>
		1) To understand the basic concepts and definitions under the Income Tax Act, 1961
	403- Business Taxation	<p>2) To update the students with latest development in the subject of taxation</p> <p>3) To develop ability to calculate taxable income of firms, co-operative societies and charitable trust</p>
		1) To acquaint the students with emerging issues in international business.
	404- International relation & labour laws	<p>2) To study the impact of international business environment on foreign market operation.</p> <p>3) To understand the importance of foreign trade for Indian economy.</p>
	405- management information system	<p>1) To understand the concepts of Information System</p> <p>2) To study the concepts of system analysis and design</p>
	406-Business Exposure	<p>3) To understand the issues in MIS</p> <p>1) To develop the understanding of the student with a realistic and practical perception of the industry its layout, procedures, processes, organization structure.</p> <p>2) 2.The objective of the Industrial Visit is to help students gain firsthand information regarding the functioning of the Industry which presents the students with opportunities to plan, organize and engage in active learning experiences both inside and outside the classroom</p>
		1)
TY BBA Sem v	SEM V 501- Supply Chain & Logistics Management	<p>1) To introduce the fundamental concepts in Materials and Logistics Management.</p> <p>2) To familiarize with the issues in core functions in materials and logistic mangement.</p>
	502- Intrepreneurhip development	1) To Create entrepreneurial awareness among the students



			2) To Help students to develop their entrepreneurial competence.
			3) To Help students to up bring out their own business plan.
		503- Business ethics	1) To import Knowledge of Business Ethics to the Student.
			2) To impart Knowledge of various Business Ethics practices
		504- Research methodology	3) To the student modern Business Ethics and their give and understanding residing applications in different context.
			1) To expose students to the areas of commercial and business research activities.
		505 A - special paper- I Analysis of financial statement	1) To study various financial statements of corporate organisations.
			2) To make the student well acquainted with current financial practices.
		506 A SPL. Paper II long term finance	1) To make the study of long term financing.
			2. To make the student well acquainted regarding current financial structure.
			1) To identify and understand the significance of distribution and retailing in the current business environment
		506 A SPL II Retail mangement	2) To identify the decision areas in distribution and retailing and appreciate the interrelationships with other aspects of marketing.
			3) To identify the paradigm shifts in retailing business with increasing scope of technology / e-business.
		SEM VI- 601- Business planning and project management .	1) To acquaint the students with the planning process in business and familiarise them with the function & techniques of project management.
		602- Event mangement	1) To acquaint the students with concept issues and various aspects of event management.
			2) To understand basic concept of event
		603- Management control sytem	1) To introduce to the students the function of management control, its nature functional areas, and techniques.
		604- E- commerece	1) To know the concept of electronic commerce

			2) To Know what is Internet and Extranet
			3) To know Internet marketing techniques
	605 A	Financial services	1) To make the study of various financial services in India.
			2) To make the student well acquainted regarding financial market.
	605 -B	Advertising & sales promotion.	1) To understand basic concept of sales promotion
			2) Introduce various channels of distribution



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Class	Course	Course Outcomes (Cos)
FYBBA- CA	101-Modern Operating Environment & MS-Office	This course enables students to 1) To develop knowledge and understanding of Computer environment. 2) To make students aware to computer software and application. 3) To inculcate values of Environmental ethics amongst the students.
	102-Financial Accounting	1) To acquire sound knowledge of basic concepts of accounting. 2) To gain basic accounting knowledge. 3) To gain knowledge about recording of transactions and preparation of final account. 4) To acquaint the student about accounting software packages.
	103-Programming principles & Algorithms	1) To expose basic mathematics concepts. 2) To develop Analytical / Thinking and problem solving capabilities.
	104-Business Communication	1) To develop an integrative approach where reading, writing, presentation skills are used together to enhance the student ability to communicate and write effectively. 2) To create awareness among student about methods and media of Communication. 3) To make student familiar with information technology and improve job seeking skills.
	105-Principles of Management	1) To gain knowledge about working of business organisation. 2) To acquire knowledge of management process functions and principles. 3) Students will also get the idea about recent trends in management.
	106-Laboratory Course-I(Based on Paper No.101&102)	1) Practical knowledge of MS-Word, Excel, Powerpoint etc. 2) To gain knowledge of programming algorithm and run algorithm using dry run method.
	201- Procedure Oriented Programming Using C	1) To impart the Knowledge of Basic concepts of C-Programming language . 2) To provide basic knowledge of implementing programming language.

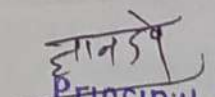
		3) To gain knowledge of logic of program.
	202- Data Base Management System	1) To understand the role of database Management system. 2) To understand database Management System. 3) To understand and use of DBMS. 4) To aware students about various SQL query .
	203- Organizational Behavior	1) To gain knowledge about working in organisation. 2) To understand knowledge about stress . 3) To gain knowledge of personality.
	204- Computer Application in Statistics	1) To gain the power of excel spreadsheet in computing summary statistics. 2) To understand the concept of various measure of central tendency and their importance in business 3) To gain knowledge of probality, Probality distributions.
	205- E-Commerce Concepts	1) To gain knowledge of electronics commerce. 2) To understand internet and Extranet . 3) To understand technology soluton. 4) To gain knowledge of E-Com Security.
	206-Laboratory Course-II(Based on Paper No.201&202)	1) To gain the C-Programming program logic. 2) To gain knowledge of DBMS & SQL language.
SYBBA- CA Semester- III	301- Relational Database Management System	1) To make the students aware about relational database concepts and transaction management concepts in database System. 2) To gain knowledge about PL/SQL program, Function ,Procedure,package,Cursor and trigger.
	302- Data Structure Using C	1) To understand the knowledge of different method of orgnising large amount of data. 2) To develop and implement different data structure. 3) To efficient knowledge solution for different problems.
	303- Introduction to Operating System	1) To gain knowledge of System programming. 2) To know services and scheduling concepts provided by operating system.



	304- Business Mathematics	1) To gain knowledge of profit,loss,Interest,matrices and determinants.
		2) To enable the students to acquire necessary skills of L.P.P and T.P.
	305- Software Engineering	1) To gain knowledge of system concepts and its application in software development.
	306-Laboratory Course-III(Based on Paper No.301&302)	1) To gain knowledge of data structure using c language.
		2) To understand practical knowledge of relational entities.
SYBBA- CA Semester- IV	401-OOP's Using CPP	1) To gain knowledge of basic object oriented concepts and issues involved in effective class design.
		2) To gain knowledge of writing object oriented programming language program use information hiding,Constructors,Destructors, inheritance.
	402- Programming in visual Basic	1) To gain knowledge of connectivity between VB and database.
		2) To acquire knowledge of active control and how to design VB application.
	403- Computer Networking	1) To gain knowledge of different topologies used in networking.
		2) To acquire knowledge of different types of network.
		3) To gain knowledge of connecting device used in network.
	404- Enterprise Resource Planning	1) To gain knowledge of ERP
	2) To gain knowledge of different ERP technologies.	
	405-Human Resource Management.	1) To gain knowledge to student with Human resource management its different function in an organization and human resource processes that are concerned with planning, motivating and developing suitable employees for the benefit of the organization.
	406-Laboratory Course-IV(Based on Paper No.401&402)	1) To gain knowledge of CPP language.
		2) To gain knowledge of different program of VB.
TYBBA- CA Semester- V	501-Java Programming	1) To understand basic concept of Java programming.
		2) To develop java programming application.
	502- Web Technologies	1) To gain knowledge of internet programming.

		2) To gain knowledge to develop web based application using PHP.
	503- Dot net Programming	1) To gain knowledge of visual programming and event driven programming practically. 2) To gain applications development skill to student.
	504- Object Oriented Software Engg.	1) To gain knowledge of system design using UML. 2) To acquire knowledge of system development through object oriented techniques.
	505- Software Project-I (Based on C++/VB Technology)	1) To gain knowledge to student for developing project on real world application.
	506-Laboratory Course-V(Based on Paper No.501 & 502)	1) To gain knowledge of Java language. 2) To gain knowledge of different program of web technologies.
TYBBA- CA Semester- VI	601-Advanced Web Technologies	1) To gain knowledge of internet programming. 2) To understand concept of XML and AJAX.
	602- Advanced Java	1) To gain knowledge of day to day applications. 2) To gain programming logic.
	603- Recent Trends in IT	1) To gain knowledge of upcoming trends in information technology. 2) To understand concept Eco friendly software development.
	604- Software Testing	1) To gain knowledge of software testing 2) To understand how to test bugs in software.
	605- Software Project-II (Java / Dot Net Technology)	1) To gain knowledge to student for developing project on real world application.
	606-Laboratory Course-VI(Based on Paper No-601 & 602)	1) To gain knowledge of advance programming language. 2) To gain knowledge of different program of XML and AJAX.



  
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Bachelor of Business Administration –International Business.

Programmes offered

SN	Program	Program outcomes (POs)	Program Specific Outcomes (PSO)
1	BBA-IB	PO1. CRITICALTHINKING	PSO1
		The curriculum is designed such way that students should acquire and ability to observe accurately and objectively. They should be able to solve the problems and also think scientifically, independently and draw rational conclusions.	With the Industrial Liberalization and Globalization of trade and emphasis on Global markets, there is a great scope for employment as well as self employment in international business dealing with variety of innovative products and services.
		PO2.EFFECTIVE COMMUNICATION	
		The medium of instructions for this program is English. English being the language of world students become habitual to communicate in English.	POS 2 There is great scope also exists in International Logistics, Supply- Chain Management, Storage, Transportation and Distribution.
		PO3 SOCIAL INTERACTIONS	
		In this program students are made aware of social related issues. They are made aware of optimal use of resources.	PSO3 To make the students self employed by using theoretical knowledge to start their own venture.
		P04 EFFECTIVE CITIZENSHIP	
This program helps students for uses effective decision-making and problem-solving skills in public and private life. Students has the ability	PSO4 To make the students able to handle Import and Export work in various export firms.		

		to collaborate effectively as a member of a group, also actively participates in civic and community life	
		PO5 ETHICS	
		In this program students are made alert regarding business ethics, values and principles which are required for the growth of nation.	
		PO6 ENVIRONMENT AND SUSTAINABILITY	
		Being Business Administration-IB students they become well conversant with various business requisites for environment protection and sustainability of the business.	
		PO7 SELF DIRECTED AND LIFE LONG LEARNING	
		Program curriculum inculcates the curiosity and problem solving approach which makes them self directed and learning becomes a continuous process throughout the life.	

**Courses offered – Under-Graduate Bachelor of Business Administration-IB**

Sr.No	Class	Course	Course Outcomes (Cos)
1	FYBBA-IB	101- Indian Business Environment	This course enables students to 1) To develop knowledge base of environmental factors affecting business. 2) To make students aware to environmental problems related to business and commerce.



	3) To inculcate values of Environmental ethics amongst the students.
102-Communication Skills & Personality	1) To understand the concept, process and importance of Communication. 2) To gain knowledge of media of communication. 3) To develop skills of effective communication - both written and oral. 4) To help students to acquaint with application of communication skills in the world of business. 5) To understand the concept of personality and personality development and its significance. 6) To understand and develop various traits required for personality development.
103- Micro Economic Analysis	1) To expose basic microeconomic concepts to students of international business. 2) To provide a method/ approach to help draw correct conclusions/ solve economic problems. 3) To understand, explain and quantify the mechanism by which the total amount of resources possessed by society is allocated among alternative uses.
104- Business Accounting.	1) To Impart the Knowledge of Basic concepts, 2) To provide basic knowledge of important books of Accounting, preparation of various financial statements. 3) Level of Knowledge: Basic understanding of the subject.
105- Principles & Practice of Management	1) To provide a basis of understanding to the students with reference to working of business organization through the process of management. 2) On completion of the syllabi, the student will understand the basic principles of management - will acquaint himself with management process, functions and principles. 3) Students will also get the idea about new developments in management
106- Business Mathematics.	1) To understand the concepts of ratio, proportion and percentage. 2) To understand the concept and application of profit and loss in business. 3) To use the concept of EMI. 4) To understand the concept of stock exchange and to calculate Dividend. 5) To understand applications of matrices in



			business.
			6) To understand useful functions in business and economics.
		201- Cost Accounting	1) To Impart the Knowledge of Basic cost concepts, element of cost & Preparation of Cost Sheet.
			2) To provide basic knowledge of important Methods & Techniques of costing.
			3) Level of Knowledge: Basic understanding of the subject.
		202- Elements of Human Resource Management	1) To understand the roles of HR Manager.
			2) To understand recruitment and selection procedure
			3) To understand training and development.
			4) To aware students about various cases/problems of business world how to tackle.
		203- Macro Economic Analysis	1) To study the behavior of the economy as a whole.
			2) To study relationships among broad aggregates.
			3) To apply economic reasoning to macroeconomic policy.
		204- Principles of Marketing	1) To study & critically analyze the basic concepts in marketing & to cater the needs of marketing industries
		205- Business Statistics.	1) To understand the concept of population and sample.
			2) To use frequency distribution to make decision.
			3) To understand and to calculate various types of averages and variation.
			4) To use regression analysis to estimate the relationship between two variables.
			5) To solve LPP to maximize the profit and to minimize the cost.
		206- IT in Business Operations	1) To Know the Fundamentals of Computers
			2) To understand how to use Computer applications in Business.
3	SYBBA-IB Semester-III	301- International Business Environment	1) To make the students aware about globalization and environmental consequences.
			2) To create awareness about dimensions of eco-friendly environment.
			3) To gain knowledge about global warming and environmental ethics.
		302- Production & Operations	1) To impart knowledge regarding the process of production.



		Management	
		303- International Economics	1) To provide a comprehensive understanding of the concepts of international economics. 2) To develop theoretical tools to understand current international issues and their impacts on business
		304- International Marketing	1) To familiarize the student to understand the international environment and policies 2) To enable the students to acquire necessary skills to deal in international market
		305- Foreign Language Paper I.: French.	1) Students should get acquainted with the basic sentence patterns of French language so that they can communicate in French if required. 2) The students should be able to read, write, understand and speak French with limited vocabulary.
		305- Foreign Language Paper I.: German	1) Students should get acquainted with the basic sentence patterns of German language so that they can communicate in German if required. 2) The students should be able to read, write, understand and speak German with limited vocabulary.
		306- Management Accounting.	1) To impart basic knowledge of Management Accounting.
4	SYBBA-IB Semester-IV	401- FOREIGN EXCHANGE OPERATIONS	1) To provide a comprehensive understanding of the concepts of foreign exchange rates. 2) To provide practical procedural aspects of banks and other institutions connected with foreign exchange.
		402- International Business in Services Sector	1) The main objective of the course is to highlight the distinctive features, operations of the services in the context of international business. 2) To give and understanding as to analyze the opportunities involved in trade in services at the international level.
		403- INTERNATIONAL AGRICULTURAL BUSINESS	1) To make the students aware of the national and international agricultural scenario. 2) To develop an awareness among students about exim policy and agri marketing.
		404- Business Taxation	1) To understand the basic concepts and definitions under the Income Tax Act,1961 & basic clarifications regarding Indirect Taxation 2) To Acquire knowledge about Computation of Income under different heads of Income of Income Tax Act,1961.



			3) To Acquire Knowledge about the submission of Income Tax Return, Advance Tax, Tax deducted at Source, Tax Collection Authorities.
			4) To make students Competent enough to take up to employment as Tax planner.
		405-Foreign Language Paper II	1) Students should get acquainted with the basic sentence patterns of French language so that they could communicate in German if required. 2) The students should be able at the end of course to read, write, understand and speak French with limited vocabulary. 3) To give basic relating French as a commercial language. 4) To create awareness of prospects of learning French for International Trade.
		405-Foreign Language Paper II	1) Students should get acquainted with the basic sentence patterns of German language so that they could communicate in German if required. 2) The students should be able at the end of course to read, write, understand and speak German with limited vocabulary.
		406-Business Exposure	1) To introduce to the students to the general nature and structure of international business. 2) To enhance the awareness of the students towards study and use of Trade and Industry directories, business websites and published data and information relating to Indent House, International Business Transactions, Foreign Exchange Department of the Bank, Foreign trade Brokers, Agents, Agri business etc.
5	TYBBA-IB Semester-	501- Business Ethics	1) To impart knowledge of Business Ethics to the Students. 2) To impart knowledge of various Business Ethics practices.
		502- Business Law.	1) To gain Understanding of basic legal terms and concepts used in law pertaining to management of Business. 2) To comprehend applicability of legal principles to situations in business by referring to few decided leading cases. 3) To bestow confidence in students to deal with situations involving legal issues in commercial Transactions.
		503- International Relations	1) To know and understand foreign affairs & global issues with international business system.



			2) To help students understand the background for conducting international trade in the constantly changing global market.
		504- International Banking & Finance	1) To acquaint students with Global Banking Practices & various methods for financing International trade.
		505- Business Reporting & Analysis.	1) To develop among students abilities to analyze & interpret various Economic Factors that affect Business decision making. Similarly to understand reporting pattern followed in corporate sector as a part of MIS
		506- E- Commerce Technology	1) To develop students to use of technology for doing business in domestic and international market.
6	TYBBA-IB	601- Import Export Procedure.	1) To develop students for starting their own business setups. 2) To understand various essential for doing import export business.
		602- International Business Law.	1) To create awareness amongst students about international laws. 2) To understand International Institutions, their functions & Role in International Economic Law, International Trade.
		603- Study of Global Economics	1) To understand the functions of IMF & World Bank. 2) To understand the position of India in global market.
		604- International Project Management	1) To understand students about the importance of project management 2) To make students to be able to handle big projects.
		605- Supply Chain & Logistics Management	1) To make students able to tackle business situations through various requisites of SC&LM.
		606- Research Methodology & Project	1) To create interest amongst students for genuine research work. 2) To improve creativity, thinking ability, innovation and learning habit for overall development.

Bachelor of Science(Computer Science)

Programmes offered

SN	Program	Program outcomes (POs)	Program Specific Outcomes (PSO)
1	B.Sc(Comp.Sci.)	PO1. CRITICALTHINKING	
			The objectives of the program shall be to provide a sound academic base from which an advanced career in Computer Science can be developed. Conceptual grounding in Computer usage as well as its practical business application will be provided.
		PO2.EFFECTIVE COMMUNICATION	
		The medium of instructions for this program is English. English being the language of world students become habitual to communicate in English.	POS 2 There is great scope also exists in software industry,Company, Banking & finance.
		PO3 SOCIAL INTERACTIONS	
		In this program students are made aware of social related issues. They are made aware of optimal use of resources.	PSO3 To make the students self employed by using theoretical knowledge to start their own venture.
		P04 EFFECTIVE CITIZENSHIP	
	This program helps students for uses effective decision making and problem-solving skills in public and private life. Students has the ability to collaborate effectively as a member of a group, also actively participates in civic and community life	PSO4 To make the students able to create computer application software which are used for specific firm.	



	PO5 ETHICS	
	In this program students are made alert regarding business ethics, values and principles which are required for the growth of nation.	
	PO6 ENVIRONMENT AND SUSTAINABILITY	
	Being Bachelor of Science Computer Science students they become well conversant with various business requisites for environment protection and sustainability of the business.	
	PO7 SELF DIRECTED AND LIFE LONG LEARNING	
	Program curriculum inculcates the curiosity and problem solving approach which makes them self directed and learning becomes a continuous process throughout the life.	

Courses offered – Under-Graduate Bachelor of Science (Computer Science)

Sr.No	Class	Course	Course Outcomes (Cos)
1	F.Y.B.Sc(Comp. Sci.)	CS-101: Problem solving Using Computers Using C Programming	This course enables students to 1) To develop problem solving abilities using Computers. 2) To acquire basic principles of programming. 3) To develop skills for writing program using 'C'
		CS-102: File Organization and Fundamental of databases.	1) To acquire knowledge of data processing using Computers. 2) To acquire organization of data using files. 3) To gain knowledge about creations, manipulation and querying of data in databases.
		CS-103: Computer	1) To gain knowledge of C programs.

		Science Practical paper-I	<ul style="list-style-type: none"> <li>2) To acquire knowledge of data types and data structures.</li> <li>3) To gain knowledge of appropriate control structures.</li> </ul>
		CS-104: Computer Science Practical Paper-II	<ul style="list-style-type: none"> <li>1) To gain knowledge of HTML Programming.</li> <li>2) To gain knowledge of C-Programming.</li> </ul>
2	S.Y.B.Sc(Comp. Sci.) Semester-I & II	CS-211 : Data Structure Using C.	<ul style="list-style-type: none"> <li>1) To understand the knowledge of different methods of organising large amount of data.</li> <li>2) To develop and implement different data structures.</li> <li>3) To efficient knowledge solution for different problems.</li> </ul>
		CS-212 : Relational Database Management System.	<ul style="list-style-type: none"> <li>1) To make the students aware about relational database concepts and transaction management concepts in database System.</li> <li>2) To gain knowledge of data security and its importance.</li> <li>3) To gain knowledge of client server architecture.</li> </ul>
		CS-221 : Object Oriented concepts using C++	<ul style="list-style-type: none"> <li>1) To gain knowledge of C++ Language.</li> <li>2) To acquire knowledge of object Oriented programming.</li> </ul>
		CS-222 : Software Engineering.	<ul style="list-style-type: none"> <li>1) To gain knowledge of System analysis and design .</li> <li>2) To gain knowledge of process model and practices.</li> </ul>
		CS-223 : Data Structure practicals and C++ Practical	<ul style="list-style-type: none"> <li>1) To gain knowledge of data structure and related algorithm.</li> <li>2) To gain knowledge to solve one problem in many ways.</li> </ul>
		CS-224 : Database practicals & Mini Project Using software engineering techniques.	<ul style="list-style-type: none"> <li>1) To acquire knowledge of cursors, triggers, views and stored procedures.</li> <li>2) To gain knowledge of writing writing queries as per functional requirement.</li> </ul>
3	T.Y.B.Sc(Comp. Sci.) Semester-III & IV	CS-331 : System programming	<ul style="list-style-type: none"> <li>1) To acquire knowledge of system programs and important role in program development .</li> <li>2) To gain knowledge of data structure of a simple editor.</li> <li>3) To gain knowledge of operating system.</li> </ul>
		CS-332 : Theoretical Computer Science	<ul style="list-style-type: none"> <li>1) To gain knowledge of regular languages and context free language.</li> <li>2) To acquire knowledge of turing machine and classes of problem.</li> </ul>
		CS-333 : Computer Network-I	<ul style="list-style-type: none"> <li>1) To gain knowledge of network, various topologies and application of network.</li> </ul>



	2) To acquire knowledge of networking model, protocols and functionality of each layer
	3) To gain knowledge of hardware and tools.
CS-334 : Internet programming-I	1) To gain knowledge of PHP, Server side scripting language.
	2) To gain knowledge of PHP database handling.
CS-335 : Programming in Java-I	1) To gain knowledge of Java Language.
	2) To gain knowledge of exception handling, Swing and AWT.
CS-336 : Object Oriented software Engineering	1) To gain knowledge of object Oriented Concepts.
	2) To gain knowledge of classical software engineering.
CS-341 : Operating Systems	1) To acquire issues related to process management and various related algorithm.
	2) To gain knowledge related to process management, Memory management and related algorithm.
CS-342 : Compiler Construction	1) To acquire knowledge of lexical analyzer and use of LEX.
	2) To gain knowledge of parser, Yacc tool, Memory allocation and code generation scheme.
CS-343 : Computer Networks-II	1) To acquire knowledge of networking.
	2) To gain knowledge of wireless network functionality of layer.
CS-344 : Internet Programming-II	1) To gain knowledge of client side scripting language.
	2) To gain knowledge of AJAX, Java Script and web page.
CS-345 : Programming in Java-II	1) To gain knowledge of Java programming
	2) To acquire knowledge of multithreading, servlet and JSP.
CS-346 : Computer Graphics	1) To gain knowledge of computer Graphics.
	2) To acquire knowledge of programmer perspective of working of computer graphics.
	3) To gain knowledge of transformation.
CS-347 : System programming & Operating System .	1) To gain knowledge of system programs and operating System.
	2) To gain knowledge of simulations of operating system levels.
CS-348 : Programming in java-I & II.	1) To gain knowledge of java program.
	2) To gain knowledge of client and server and java program.
CS-349 : Programming in	1) To gain knowledge of php programs.

PHP & Project

2) To gain knowledge of java and PHP project.



Bachelor of Business Administration(Computer Application)

Programmes offered

√	Program	Program outcomes (POs)	Program Specific Outcomes (PSO)
1	BBA(C.A)	<p>PO1. CRITICAL THINKING</p> <p>The curriculum is designed such way that students should acquire and ability to observe accurately and objectively. They should be able to solve the problems and also think scientifically, independently and draw rational conclusions.</p>	<p>The objectives of the program shall be to provide sound academic base from which an advanced career in Computer Application can be developed. Conceptual grounding in Computer usage as well as its practical business application will be provided.</p>
		<p>PO2.EFFECTIVE COMMUNICATION</p> <p>The medium of instructions for this program is English. English being the language of world students become habitual to communicate in English.</p>	<p>POS 2</p> <p>There is great scope also exists in software industry, Company, Banking &amp; finance.</p>
		<p>PO3 SOCIAL INTERACTIONS</p> <p>In this program students are made aware of social related issues. They are made aware of optimal use of resources.</p>	<p>PSO3</p> <p>To make the students self employed by using theoretical knowledge to start their own venture.</p>
		<p>P04 EFFECTIVE CITIZENSHIP</p> <p>This program helps students for uses effective decision-making and problem-solving skills in public and private life. Students has the ability to collaborate effectively as a member of a group, also actively participates in civic and community life</p>	<p>PSO4</p> <p>To make the students able to create computer application software which are used for specific firm.</p>
		<p>PO5 ETHICS</p> <p>In this program students are made alert regarding business ethics, values and principles which are required for the growth of nation.</p>	

PO6 ENVIRNMENT AND SUSTAINABILITY	
Being Business Administration-Computer Application students they become well conversant with various business requisites for environment protection and sustainability of the business.	
PO7 SELF DIRECTED AND LIFE LONG LEARNING	
Program curriculum inculcates the curiosity and problem solving approach which makes them self directed and learning becomes a continuous process throughout the life.	

Courses offered – Under-Graduate Bachelor of Business Administration-Computer Application

No	Class	Course	Course Outcomes (Cos)
1	FYBBA-CA	101-Modern Operating Environment & MS-Office	This course enables students to
			1) To develop knowledge and understanding of Computer environment.
			2) To make students aware to computer software and application.
		102-Financial Accounting	3) To inculcate values of Environmental ethics amongst the students.
			1) To acquire sound knowledge of basic concepts of accounting.
			2) To gain basic accounting knowledge.
			3) To gain knowledge about recording of trasactions and preparation of final account.
		103-Programming principles & Algorithms	4) To acquanint the student about accounting software packages.
			1) To expose basic mathematics concepts.
		104-Business Communication	2) To develop Analytical / Thinking and problem solving capabalities.
1) To develop an integrative approach where reading,writing,presentation skills are used together to enhance the student ability to communicate and write effectively.			
			2) To create awarness among student about methods and media of Communication.



		3) To make student familiar with information technology and improve job seeking skills.
105-Principles of Management		1) To gain knowledge about working of business organisation. 2) To acquire knowledge of management process functions and principles. 3) Students will also get the idea about recent trends in management.
106-Laboratory Course-I(Based on Paper No.101&102)		1) Practical knowledge of MS-Word,Excel, Powerpoint etc. 2) To gain knowledge of programming algorithm and run algorithm using dry run method.
201- Procedure Oriented Programming Using C		1) To impart the Knowledge of Basic concepts of C-Programming language . 2) To provide basic knowledge of implementing programming language. 3) To gain knowledge of logic of program.
202- Data Base Management System		1) To understand the role of database Management system. 2) To understand database Management System. 3) To understand and use of DBMS. 4) To aware students about various SQL query .
203- Organizational Behavior		1) To gain knowledge about working in organisation. 2) To understand knowledge about stress . 3) To gain knowledge of personality.
204- Computer Application in Statistics		1) To gain the power of excel spreadsheet in computing summary statistics. 2) To understand the concept of various measure of central tendency and their importance in business 3) To gain knowledge of probality, Probality distributions.
205- E-Commerce Concepts		1) To gain knowledge of electronics commerce. 2) To understand internet and Extranet . 3) To understand technology soluton. 4) To gain knowledge of E-Com Security.
206-Laboratory Course-II(Based on Paper No.201&202)		1) To gain the C-Programming program logic. 2) To gain knowledge of DBMS & SQL language.
3	SYBBA-CA Semester-III	301- Relational Database Management System
		1) To make the students aware about relational database concepts and transaction management concepts in database System. 2) To gain knowledge about PL/SQL program, Function ,Procedure,package,Cursor and trigger.
		302- Data Structure Using C
		1) To understand the knowledge of different method of orgnising large amount of data.



		2) To develop and implement different data structure.	
		3) To efficient knowledge solution for different problems.	
	303- Introduction to Operating System	1) To gain knowledge of System programming.	
		2) To know services and scheduling concepts provided by operating system.	
	304- Business Mathematics	1) To gain knowledge of profit,loss,Interest,matrices and determinants.	
		2) To enable the students to acquire necessary skills of L.P.P and T.P.	
	305- Software Engineering	1) To gain knowledge of system concepts and its application in software development.	
	306-Laboratory Course-III(Based on Paper No.301&302)	1) To gain knowledge of data structure using c language.	
		2) To understaind practical knowledge of relational entities.	
SYBBA- CA Semester- IV	401-OOP's Using CPP	1) To gain knowledge of basic object orientated concepts and issues involved in effective class design.	
		2) To gain knowledge of writing object oriented programming language program use information hiding,Constructors,Destructors, inheritance.	
	402- Programming in visual Basic	1) To gain knowledge of connectivity between VB and database.	
		2) To acquire knowledge of active control and how to design VB application.	
	403- Computer Networking	1) To gain knowledge of different topologies used in networking.	
		2) To acquire knowledge of different types of network.	
		3) To gain knowledge of connecting device used in network.	
	404- Enterprise Resource Planning	1) To gain knowledge of ERP	
	2) To gain knowledge of different ERP technologies.		
	405-Human Resource Management.	1) To gain knowledge to student with Human resource management its different function in an organization and human resource processes that are concerned with planning, motivating and developing suitable employees for the benefit of the organization.	
	406-Laboratory Course-IV(Based on Paper No.401&402)	1) To gain knowledge of CPP language.	
		2) To gain knowledge of different program of VB.	
5	TYBBA- CA Semester- V	501-Java Programming	1) To understand basic concept of Java programming.
			2) To develop java programming application.
		502- Web Technologies	1) To gain knowledge of internet programming.
			2) To gain knowledge to develop web based application using PHP.



6	TYBBA- CA Semester- VI	503- Dot net Programming	1) To gain knowledge of visual programming and event driven programming practically.
			2) To gain applications development skill to student.
		504- Object Oriented Software Engg.	1) To gain knowledge of system design using UML.
			2) To acquire knowledge of system development through object oriented techniques.
		505- Software Project-I (Based on C++/VB Technology)	1) To gain knowledge to student for developing project on real world application.
		506-Laboratory Course-V(Based on Paper No.501 & 502)	1) To gain knowledge of Java language.
			2) To gain knowledge of different program of web technologies.
		601-Advanced Web Technologies	1) To gain knowledge of internet programming .
			2) To understand concept of XML and AJAX.
		602- Advanced Java	1) To gain knowledge of day to day applications.
	2) To gain programming logic.		
603- Recent Trends in IT	1) To gain knowledge of upcoming trends in information technology.		
	2) To understand concept Eco friendly software development.		
604- Software Testing	1) To gain knowledge of software testing		
	2) To understand how to test bugs in software.		
605- Software Project-II (Java / Dot Net Technology)	1) To gain knowledge to student for developing project on real world application.		
606-Laboratory Course-VI(Based on Paper No-601 & 602)	1) To gain knowledge of advance programming language.		
	2) To gain knowledge of different program of XML and AJAX.		

2.6.1.

		<b>Chemistry</b>	
		<b>Programmes offered</b>	
<b>Sr.No</b>	<b>Program</b>	<b>Program objectives</b>	<b>Program specific objectives</b>
1	B Sc. Chemistry	<b>PO1. CRITICAL THINKING</b>	<b>PSO1</b>
		The curriculum is designed such way that students should acquire and ability to observe accurately and objectively. They should be able to solve the problems and also think scientifically, independently and draw rational conclusions.	To provide the basic principles of all branches of chemistry knowledge of chemical principles and make them independent for the effective application of it.
			<b>POS 2</b>
		<b>PO2. EFFECTIVE COMMUNICATION</b>	To provide thorough knowledge of laboratory skills so that students can prepare for the experimental setup, actual working of equipments, obtain experimental data and interpretation of it. This then interpreted using theoretical principles.
		The medium of instruction for this course is English. English being the language of world students become habitual to communicate in English using language of Chemistry.	<b>PSO3</b>
			To make the students self sufficient in understanding and handling the various issues that may arise related to chemistry.
		<b>PO3 SOCIAL INTERACTIONS</b>	
In this course students are made aware of environment related issues. They are made aware of optimal use of fertilizers, water, fuels and drugs.			
	<b>PO4 EFFECTIVE CITIZENSHIP</b>		



In this program students are made aware of pollution problems waste water management, water treatment etc. They are also made aware importance of energy and water, food, fuels, general hygiene and cleanliness etc.

**PO5 ETHICS**

In this program students are made alerts regarding misuse of food adulteration, chemical technology, poisons, fungicides, pesticides and chemical and nuclear weapons

**PO6 ENVIRONMENT AND SUSTAINABILITY**

Being Chemistry students they become well conversant with various pollutants their sources and their impact on bio-system. So they become well versed with protection and conservation of environment.

**PO7 SELF DIRECTED AND LIFE LONG LEARNING**

Program curriculum inculcates the curiosity and problem solving approach which makes them self directed and learning becomes a continuous process throughout the life.

Sr.No	Class	Course	Course Outcomes
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1

F.Y.B.Sc.  
Chemistry  
(Annual Pattern)

Paper I Physical & Inorganic  
Chemistry

This course enables students to understand basic laws regarding states of matter, surface chemistry, thermodynamics and structure of atom. Students are also made aware of mole concept, derivations, depictions and problem solving and periodic properties of the elements including the preliminary theories of bonding.

Paper II Organic & Inorganic  
Chemistry

Students are made aware of fundamental concepts of organic and inorganic chemistry which governs the structure, bonding, properties, structural effects, acid-base theories, preparation methods, reactivity and stereochemistry of organic molecules.

Paper III Practical chemistry

Chemistry is an experimental subject; practical course is intended to achieve the basic skills required for understanding the concepts and authenticating the basic laws and principles of chemistry & helps in development of practical skills of the students.

2

S.Y.B.Sc.  
Chemistry  
(semester  
Pattern)

Physical & Analytical Chemistry  
CH211

Students are made aware about kinetics of chemical reactions, photochemical laws, distribution law and extraction process.

Students are introduced to analytical chemistry in which they are made aware of inorganic qualitative analysis and analysis of organic compounds (Qualitative & Quantitative). Along with it they also study error in quantitative analysis & ways to minimize them.



	Organic & Inorganic Chemistry CH212	Students are made aware of stereochemistry of different stereoisomers & organic reaction mechanism in which they study different types of reagents, reactions and their mechanisms.
		Students are introduced to metallurgy to understand chemical reactions and processes occurred in metallurgy. The corrosion & passivity is also included in the syllabus.
Semester II	Physical & Analytical Chemistry CH221	Students are made aware about concepts of Helmholtz free energy & Gibbs free energy as well as free energy of chemical reactions & physical transformation. Students also study different modes of concentration, distillation of solutions of liquid in liquid, partially immiscible liquids & distillation of immiscible liquids.
		Students are made to understand volumetric analysis wherein they study non-instrumental volumetric analysis which comprises of study of various titrations, indicators used in it & some theoretical aspects related with titrations.
	Organic & Inorganic Chemistry CH222	Students are introduced to various biomolecules, their role & structural aspects. Students also study different oxidizing and reducing reagents, their selectivity to different substrates, heterocycles, their preparation & reactions.

			Students are introduced to organometallic chemistry & use of organometallic compounds in synthesis of organic as well as inorganic compounds. They also study chemical toxicology to know adverse effects of chemicals.
	S. Y. B.Sc. Chemistry (Annual Pattern)	Practical course	Students are trained to determine the rate constant of chemical reactions, heat of solution, heat of neutralization, critical solution temperature of partially miscible system & distribution coefficient.
			Students are trained for quantitative analysis of different samples such as $\text{Na}_2\text{CO}_3$ in washing soda, Aspirin in APC tablet, Aluminium in Alum, strength of $\text{H}_2\text{O}_2$ , Copper in Brass & iodimetric methods.
			Students are trained for organic & inorganic qualitative analysis. They are also trained for preparation of organic compounds & chromatographic techniques like TLC.
3	T. Y. B.Sc. Chemistry Semester III	CH-331 Physical Chemistry	Students are introduced basic concept of physical chemistry. They also learn methods to determine order of reaction, Arrhenius equation, and graphical evaluation of energy of activation. Students learn principle and applications of rotational, vibrational, raman and electronic spectroscopy. Students will get familiar with phase rule, phase diagram of one and two component systems.
		CH-332 Inorganic Chemistry	Students are made aware of the principles of various theories of bonding like Sidgwick model, Werner's theory VBT, CFT, MOT. They are also made aware of the principles of isomerism, nomenclature and structures of inorganic



			complexes .
		CH 333 Organic chemistry	It is the basic course in organic chemistry. Students are introduced with concepts like acidity, basicity of organic molecules, electrophile, nucleophile and good and bad leaving groups. Students are introduced with stereochemistry of disubstituted cyclohexane. Students are able to understand mechanism of organic reaction. Arrow drawing concept which is important part of reaction mechanism is explained thoroughly in this course. Students are able to identify different types of organic reactions and also they can understand reactivity profile of organic molecules.
		CH 334 Analytical Chemistry	Students are made aware of quantitative chemical analysis using the techniques like gravimetry, polarography, AAS, FES and spectrophotometry at the levels of macro, micro and trace analysis of metals and non-metals from industrial and natural samples.

CH-335 Industrial Chemistry

This course enables the students to learn use of agrochemicals like pesticide, insecticides, fungicides, fertilizers and their environmental impact. Study of food industry makes them aware of food adulteration, storage and processing of food. This course also provides opportunity to study agrochemicals, food chemicals on industrial scale. Students also learn manufacturing of basic chemicals such as Ammonia, Sulphuric acid and Nitric acid. Syllabus further comprises study of petrochemicals and eco- friendly fuels, where in students study processing of petrochemical fuels, properties of fuels and applications of fuels, non conventional energy. Syllabus also includes study of cement and glass industry. Properties, manufacture and applications of different types of cement and glass.

CH-336 Biochemistry

Students are introduced to the properties and character of fundamental components of living organism such as proteins, carbohydrates, lipids, vitamins and hormones. Students are expected to get familiarize with cell types, cell organelles and various techniques used in biochemical studies.



T. Y. B.Sc. Chemistry Semester IV	CH-341 Physical Chemistry	The course aims to give fundamental understanding and applications of electrochemical Cells, Nuclear Chemistry, Crystal structure and Quantum Chemistry. Students get to know thermodynamics and EMF, Chemical cell with and without transfer, application of EMF measurement such as pH determination, determination of solubility and solubility product. Basic elements of quantum chemistry are also introduced.
	CH- 342 Inorganic Chemistry	Students are made aware of chemistry of f block elements principles and applications of catalysis, organometallic chemistry and the principles and the applications of metals, semiconductors and superconductors.
	CH -343 Organic chemistry	Students are introduced with carbanions and their reactions. Retrosynthetic analysis concepts are explained to students. Rearrangement reactions are introduced with mechanistic approach. Spectroscopic techniques like PMR, U.V. and I.R. are introduced. Students learned to differentiate organic compounds with the help of these spectroscopic techniques.
	CH 344 Analytical Chemistry	The students are trained in the technique of separation, identification of purification using chromatographic techniques like TLC,GC,HPLC, electrophoresis etc . This knowledge enables them to be good analytical of Quality control chemist in various fields.

CH-345 Industrial Chemistry

Students are expected to learn properties, ways to manufacture or process and application of different types of polymer, paints, pigments, dyes, soaps, detergents and cosmetics. Students also learn theoretical aspects of manufacturing of sugar and fermentation industry. Syllabus further includes study of Pharmaceutical industry where students are introduced to general aspects of drug action, manufacturing of some drugs and its usage and lastly there is topic which discusses problems caused by industry such as pollution and generation of waste and what are the ways which can prevent or minimize it.

CH-346 (C) Biochemistry

Students need to know the significant metabolic pathways necessary for the sustenance of life. Fundamental processes associated with central dogma of molecular biology are taught. Students get acquainted with applications of genetic engineering in various fields like agriculture, industries and medicine.

T. Y. B.Sc.  
Practical  
Chemistry  
(Annual)

CH- 347 Physical Chemistry Practical

Students are trained in the techniques such as pH metry, Conductometry, Potentiometry, Colorimetry, Spectrophotometry, Refractometry and G. M. Counter. They learn to use these techniques in order to understand various chemical reactions.

CH- 348 Inorganic Chemistry Practical

Students are trained in the IQA of different mixtures of inorganic compounds, and the separation of the metal ions using chromatographic techniques and inorganic quantitative analysis using the techniques of gravimetry, volumetry, colorimetry



CH-349 Organic Chemistry Practical

Chemistry is an experimental subject; practical course is proposed to achieve the basic skills required for understanding the reactivity of organic molecules and validating the basic principles. It helps in development of practical skills of the students & understanding the importance of chemical safety and also explains the factors affecting reaction outcomes and yields.

Programme	Objectives	Programme Specific Objectives
Bachelor of Electronic Science(B.sc Electronics)		<u>F.Y.B.sc</u>
	PO1. Effective Communication: 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.	
		<b>Principles of Digital Electronics:</b>
		1. Well Knowledge about digital system design in Electronics 2. Designing of Digital Circuit in Different Application. 3. Knowledge about digital therm and lows in digital electronics.
		<b>Principles of Analog Electronics.:</b> 1. imparted the knowledge of various Electronics Component And Passive Component 2. instilled the knowledge about various analog electronics Theorems Like KVL&KCL low
	PO2.Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.	
	PO3.Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.	<u>S.Y.Bsc:</u>
		<b>S.Y.Bsc:Digital System Design:</b>
	PO4.Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes	1. Well Knowledge about digital system design in Electronics 2. Designing of Digital Circuit in Different Application. 3. Knowledge about digital therm and lows in digital electronics. 4. knowledge about how work designing digitsal System.
		<b>Analog System Design:</b>



		1. Well understanding about analog system design .2. How work analog system in Industries. 3. good Knowledge About Analog system.
		<b>Instrumentation:</b>
		1. Instrument Opration Principle Knowledge 2. knowledge about instrument. 3. knowdegde about handelinginstrument.
		<b>Communication Principles:</b>
		1. T.V. System Knowdege 2. Mobile And Telephone working Knowledge 3. importance of Communication How Does Take Place Communication
		<b>T.Y.B.SC.</b>
		<b>Advanced Digital System Design :</b>
		1. Well understanding About Digital System And Its Hardware. 2. Also information About Automation Based PLC System
		<b>Microcontroller:</b>
		1. Understands basic knowledge About Microcontroller And Microprocessor 2. Basic Aobut Microcontroller.
		<b>Analog Circuit Design And Application OF linear ICs:</b>
		1. Info About Analog System .Different IC's Knowledge
		<b>Principles of semiconductor Devices:</b>
		1. basic concepts About Semiconductor.
		<b>C'Programing:</b>
		1. Well knowledge about programing in 'c' which is most imported in industries
		<b>Fober Optic Communication:</b>
		1) new Type of communication for light wave.
		<b>Foundation Of Nanoelectronics:</b>

		1. Info About Development of nanoelectronics Development eg. Nanochip Development
		<b>MATLAB:</b>
		1. programming language study
Course	Course outcomes	
FYBsc : Principles of Analog Electronics.	1. imparted the knowledge of various Electronics Component And Passive Component 2. instilled the knowledge about various analog electronics Theorems Like KVL&KCL law	
FYBsc: Principles of Digital Electronics	1. Well Knowledge about digital system design in Electronics 2. Designing of Digital Circuit in Different Application. 3. Knowledge about digital theorem and laws in digital electronics.	
S.Y.Bsc: Digital System Design	1. Well Knowledge about digital system design in Electronics 2. Designing of Digital Circuit in Different Application. 3. Knowledge about digital theorem and laws in digital electronics. 4. knowledge about how work designing digital System.	
S.Y.Bsc: Analog System Design	1. Well understanding about analog system design . 2. How work analog system in Industries. 3. good Knowledge About Analog system.	
S.Y.Bsc: Instrumentation.	1. Instrument Operation Principle Knowledge 2. knowledge about instrument. 3. knowledge about handling instrument.	
S.Y.Bsc: Communication Principles.	1. T.V. System Knowledge 2. Mobile And Telephone working Knowledge 3. importance of Communication How Does Take Place Communication Knowledge.	
T.Y.Bsc : Advanced digital system Design	1. Well understanding About Digital System And Its Hardware. 2. Also information About Automation Based PLC System	



T.Y.Bsc : Microcontrollers	1. Understands basic knowledge About Microcontroller And Microprocessor 2.Basic Aobut Microcontroller.	
T.Y.Bsc: Analog Circuit Design And Application of linear IC's	1.Info About Analo System .Different IC's Kwowlge	
T.Y.Bsc : Principles of semiconductor devices	1. basic concepts About Semiconductor.	
T.Y.Bsc: 'C'Programing.	1.Well knowledge about programing in 'c' which is most imported in industries	
T.Y.Bsc : Fiber optic Communication	1) new Type of communication for light wave.	
T.Y.Bsc : Advanced Communication System	1. info About some Advance technic used in communication system	
T.Y.Bsc:Microontroller and its application.	1.various application studies about microcontroller system	
T.Y.Bsc : Power Electronics	1. Gets Knowledge about the concept and circuit study about power system	
T.Y.Bsc : Foundation Of Nanoelectronics	1.Info About Development of nanoelectronics Development eg.Nanochip Development	
T.Y.Bsc :MATLAB	1.programing laguage study	

## 2.6 Student Performance and Learning Outcomes

### 2.6.1 Program outcomes, program specific outcomes and course outcomes

Sr. No.	Program	Program Objectives	Program Specific Objectives
1	BSc Mathematics	<p>PO1: Promotion of self study</p> <p>PO2: Promotion of thinking</p> <p>PO3: Confidence</p> <p>PO4: Creativity</p> <p>PO5: Problem Solving</p> <p>PO6: Understanding Concepts</p> <p>PO7: Development of Writing, Listening and Teaching Skills</p> <p>PO8: Group Discussion (Skill of Team work, interpersonal skills)</p> <p>PO9: Social Values: Unity in Diversity</p>	<p>PSO1: To enable the students to cultivate a mathematical way of thinking i.e. making conjectures, verifying them with further observations, generalizing them, trying to find proofs and making observations.</p> <p>PSO2 : To enable the students to quantify their experiences in other subjects they study.</p> <p>PSO3: To enable the students to learn the basic structures of mathematics through unifying concepts and to motivate these structures through applications.</p> <p>PSO4: To enable the students to study mathematics for themselves.</p> <p>PSO5: To provide high quality mathematical education at all levels that will be vital for scientific and technological developments.</p>



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### Attainment of Programme Specific Outcome

#### Courses Offered

Sr. No.	Course	Course Outcomes
1	FYBSc Algebra and Geometry	<p>On completion of this course students will be expected to</p> <ul style="list-style-type: none"> <li>• Prove results involving divisibility and greatest common divisors;</li> <li>• Applications of Modular Arithmetics.</li> <li>• Solve systems of linear equations;</li> <li>• Find integral solutions to specified linear Diophantine Equations;</li> <li>• Apply Euler-Fermat's Theorem to prove relations involving prime numbers;</li> <li>• Apply the Wilson's theorem.</li> <li>• Polynomial addition, subtraction, division, multiplication, roots of polynomials.</li> <li>• Transformation, translation and reflection;</li> <li>• Used cut-out shapes as a means to develop the mental transformation of geometric shapes.</li> <li>• Perform translations and rotations of the coordinate axes to eliminate certain terms from equations.</li> <li>• To find nature of general conics.</li> <li>• Find equation of spheres, cylinders and cones from different given</li> </ul>
2	FYBSc Calculus and Differential Equations	<p>On completion of this course students will be expected to</p> <ul style="list-style-type: none"> <li>• Be able to solve algebraic equations and inequalities involving the square root and modulus function understand the difference between equations and identities, and be able to prove simple identities and inequalities</li> <li>• Be able to recognize odd, even, periodic, increasing, decreasing functions</li> <li>• Understand the operation of composition of functions .</li> <li>• Be able to calculate limits by substitution and by eliminating zero denominators</li> <li>• Be able to calculate limits at infinity of rational functions</li> <li>• Be able to calculate limits in indeterminate forms by a repeated use of l'Hopital's rule</li> <li>• Be able to use derivatives to find intervals on which the given function is increasing or decreasing</li> <li>• Find maxima and minima, critical points and inflection points of</li> </ul>



  
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		<p>functions and to determine the concavity of curves</p> <ul style="list-style-type: none"> <li>• Be able to sketch graphs of rational functions.</li> <li>• Understand the concept of indefinite integral as anti-derivative</li> </ul>
3	SYBSc (SemI) Multivariable Calculus I	<p>Upon successful completion of Multivariable Calculus the student will be able to:</p> <ul style="list-style-type: none"> <li>• Perform standard operations on vectors in two-dimensional space and threedimensional space</li> <li>• Compute the dot product of vectors, lengths of vectors, and angles between vectors</li> <li>• Compute the cross product of vectors and interpret it geometrically</li> <li>• Determine the equations of lines and planes using vectors</li> <li>• Identify various quadric surfaces through their equations</li> <li>• Sketch various types of surfaces</li> <li>• Define vector functions of one real variable and sketch space curves</li> <li>• Compute derivatives and integrals of vector functions</li> <li>• Find the arc lengths and curvatures of space curves</li> <li>• Find the velocity and acceleration of a particle moving along a space curve</li> <li>• Define functions of several variables and their limits</li> <li>• Calculate the partial derivatives of functions of several variables</li> <li>• Apply the chain rule for functions of several variables</li> <li>• Calculate the gradients and directional derivatives of functions of several variables</li> <li>• Solve problems involving tangent planes and normal lines</li> <li>• Determine the extrema of functions of several variables</li> <li>• Use the Lagrange multiplier method to find extrema of functions with constraints.</li> </ul>
4	SYBSc (SemI) Laplace Transform and Fourier Series	<p>On completion of this unit successful students will:</p> <ul style="list-style-type: none"> <li>• Able to understand the Laplace transform of elementary functions.</li> <li>• Able to use the rules of integration &amp; definition of Laplace transform students to prove the properties of Laplace transform.</li> <li>• Learns the topics inverse Laplace transform, application of Laplace transform helps to solve linear higher order differential equation, system of differential equations.</li> <li>• Understand the concept of fourier Series which gives the idea of expanding the sectionally continuous functions in to infinite series.</li> </ul>
5	SYBSc (SemII) Linear Algebra	<p>On successful completion of this course unit students will be able to</p> <ul style="list-style-type: none"> <li>• Understand the basic ideas of vector algebra: linear dependence and independence and spanning;</li> <li>• Know how to find the row space, column space and null space of a matrix, and be familiar with the concepts of dimension of a subspace and the rank and nullity of a matrix, and to understand the relationship of these concepts to associated systems of linear equations;</li> </ul>



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		<ul style="list-style-type: none"> <li>• Be familiar with the notion of a linear transformation and its matrix;</li> <li>• Find the Gram-Schmidt orthogonalization of a matrix</li> </ul>
6	SYBSc (SemII) Multivariable Calculus II	<p>On completion of this unit successful students will be able :</p> <ul style="list-style-type: none"> <li>• How to deals with vector valued functions</li> <li>• To understand topics like line integral ,surface integral which generalize integration to functions defined on curves &amp; surfaces.</li> <li>• To understanding the computation of work done ,flux,mass,area of the surfaces.</li> <li>• To understand the Greens theorem , Stokes theorem ,divergence theorem that teaches the relation between integration of functions over surfaces &amp; its boundry,solids &amp; its surface</li> </ul>
7	TYBSc (SemIII) Metric Spaces	<p>On completion of this unit successful students will be able to:</p> <ul style="list-style-type: none"> <li>• Deal with various examples of metric spaces;</li> <li>• Have some familiarity with continuous maps;</li> <li>• Work with compact sets in Euclidean space;</li> <li>• Work with completeness;</li> <li>• Apply the ideas of metric spaces to other areas of mathematics.</li> </ul>
8	TYBSc (SemIII) Real Analysis I	<p>By the end of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>• Explain the completeness of a system of real numbers: a least upper bound, a greatest lower bound.</li> <li>• Elaborate on the topological concepts of the real numbers: open sets, closed sets, accumulation points, closure, open covers, compact sets.</li> <li>• Define and utilize the following concepts: sequence, subsequence, monotone sequence, Cauchy sequence.</li> <li>• Prove that a given function is continuous or discontinuous and classify its points of discontinuity.</li> <li>• Justify the convergence/divergence of a given number series;</li> <li>• Prove some of the classical theorems of real analysis..</li> </ul>
9	TYBSc (SemIII) Group Theory	<p>On completion of this unit successful students will be able to:</p> <ul style="list-style-type: none"> <li>• Demonstrate when a binary algebraic structure forms a group.</li> <li>• Construct Caley tables.</li> <li>• Determine possible subgroups of a group.</li> <li>• Identify normal subgroups of a group.</li> <li>• Examine symmetric and permutation groups.</li> <li>• Explain group and subgroup orders using Lagrange's theorem.</li> <li>• Identify cyclic subgroups and their generators.</li> <li>• Identify factor group.</li> </ul>



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		<ul style="list-style-type: none"> <li>• Implement group axioms.</li> <li>• Apply a range of mathematical techniques to solve a variety of quantitative problems.</li> <li>• Analyze and solve problems individually and/or as par</li> </ul>
10	TYBSc (SemIII) Ordinary Differential Equations	<p>On completion of this unit successful students will be able to:</p> <ul style="list-style-type: none"> <li>• Distinguish between linear, nonlinear, partial and ordinary differential equations.</li> <li>• State the basic existence theorem for 1st order ODE's and use the theorem to determine a solution interval.</li> <li>• Recognize and solve a variable separable differential equation. 4. Recognize and solve a homogeneous differential equation.</li> <li>• Recognize and solve an exact differential equation.</li> <li>• Recognize and solve a linear differential equation by use of an integrating factor.</li> <li>• Make a change of variables to reduce a differential equation to a known form.</li> <li>• Find particular solutions to initial value problems. 10. Solve basic application problems described by first order differential equations.</li> </ul>
11	TYBSc (SemIII) Operation Research	<p>On completion of this unit successful students will be able to:</p> <ul style="list-style-type: none"> <li>• Apply the techniques used in operations research to solve real life problem in mining</li> <li>• Industry select an optimum solution with profit maximization;</li> <li>• Have complete understand of the significant role operation research play in mining</li> <li>• Project completion at every stage of the mines (Skills) use operations research to:             <ol style="list-style-type: none"> <li>1. Solve transportation problems during the allocation of trucks to excavators</li> <li>2. Formulate operation research models to solve real life problem</li> <li>3. Proficiently allocating scarce resources to optimise and maximise profit</li> <li>4. Eliminate customers / clients waiting period for service delivery</li> </ol>             turn real life problems into formulation of models to be solve by linear programming etc.           </li> <li>• Determine critical path analysis to solve real life project scheduling time and timely</li> <li>• Delivery use critical path analysis and programming evaluation production and review techniques</li> <li>• For timely project scheduling and completion and conduct literature search on the internet in the use of operation research techniques in mining projects execution and completion.</li> </ul>



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12	TYBSc (SemIII) Number Theory	<p>On completion of this unit successful students will be able to:</p> <ul style="list-style-type: none"> <li>• Define and interpret the concepts of divisibility, congruence, greatest common divisor, prime, and prime-factorization.</li> <li>• Apply the Law of Quadratic Reciprocity and other methods to classify numbers as primitive roots, quadratic residues, and quadratic non-residues.</li> <li>• Formulate and prove conjectures about numeric patterns.</li> <li>• Produce rigorous arguments (proofs) centered on the material of number theory, most notably in the use of Mathematical Induction and/or the Well Ordering Principal in the proof of theorems.</li> </ul>
13	TYBSc (SemIV) Complex Analysis	<p>Upon successful completion Complex Analysis, a student will be able to:</p> <ul style="list-style-type: none"> <li>• Represent complex numbers algebraically and geometrically,</li> <li>• Define and analyze limits and continuity for complex functions as well as consequences of continuity,</li> <li>• Apply the concept and consequences of analyticity and the Cauchy-Riemann equations and of results on harmonic and entire functions including the fundamental theorem of algebra,</li> <li>• Analyze sequences and series of analytic functions and types of convergence,</li> <li>• Evaluate complex contour integrals directly and by the fundamental theorem, apply the Cauchy integral theorem in its various versions, and the Cauchy integral formula, and</li> <li>• Represent functions as Taylor, power and Laurent series, classify singularities and poles, find residues and evaluate complex integrals using the residue theorem.</li> </ul>
14	TYBSc (SemIV) Real Analysis II	<p>Upon successful completion of this course, students will be able to</p> <ul style="list-style-type: none"> <li>• Define Riemann integrable and Riemann sums</li> <li>• Prove a theorem about Riemann sums and Riemann integrals</li> <li>• Knowledge of some simple techniques for testing the convergence of sequences and series of functions, and confidence in applying them.</li> </ul>
15	TYBSc (SemIV) Ring Theory	<p>Upon successful completion of this course, students will be able</p> <ul style="list-style-type: none"> <li>• To write precise and accurate mathematical objects in ring theory</li> <li>• For checking the irreducibility of higher degree polynomials over rings.</li> <li>• To understand the concepts like ideals and quotient rings.</li> <li>• To understand the concept of ring homomorphism.</li> </ul>
16	TYBSc (SemIV)	<p>Upon successful completion of this course, students will be able to</p>



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	Partial Differential Equations	<ul style="list-style-type: none"> <li>• Explain the concepts and language of partial differential equations.</li> <li>• Understand the difference between ordinary &amp; partial differential equation</li> <li>• Classify the partial differential equations</li> <li>• Solve the partial differential equation using charpits method, Jacobis method.</li> </ul>
17	TYBSc (SemIV) Optimization Techniques	<p>Upon successful completion of this course, students will be able to</p> <ul style="list-style-type: none"> <li>• Formulate optimization problems;</li> <li>• Understand and apply the concept of optimality criteria for various type of optimization problems;</li> <li>• Solve various constrained and unconstrained problems in single variable as well as multivariable;</li> <li>• Apply the methods of optimization in real life situation.</li> </ul>
18	TYBSc (SemIV) Graph Theory	<p>Upon successful completion of this course, students should</p> <ul style="list-style-type: none"> <li>• Be familiar with the definitions and basic theory of graphs;</li> <li>• Be able to implement many of the standard algorithms of graph theory;</li> <li>• Be able to prove simple results in graph theory.</li> <li>• State all of the technical definitions covered in the course (such as a graph, tree, planar graph, coloring, digraph, generating function, linear extension, and other terms).</li> <li>• State all of the relevant theorems covered in the course.</li> <li>• Use these definitions and theorems from memory to construct solutions to problems and/or</li> <li>• Dijkstra's algorithm to find a shortest path spanning tree in a graph or digraph.</li> </ul>



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Master of Commerce ( M Com )

Programmes offered

SN	Program	Program outcomes (POs)	Program Specific Outcomes (PSO)
1	M Com	1) 101 Management Accounting.	The main objective of this programme is to train the student to develop conceptual, applied and research skill as well as competencies required for effective problem solving and right decision making in routine and special activities relevant to financial management and banking transaction of a business.
		2) 102 Strategic management.	Strategic management focuses on integrating management, marketing, finance, operation, research and development, and information systems to achieve organizational success.
		3) 107 Advanced Cost Accounting.	The ascertainment of cost, fixation of selling price, proper recording and presentation of cost data.
		4) 108 Costing Technique & Responsibility Accounting.	The system of costing like standard costing and budgetary control are useful to management for controlling the cost.
		5) 201 Financial Analysis & Control.	To educate the student on quantitative analysis and to use statistical techniques for analysis of business data.
		6) 202 Industrial Economics.	To make the students understand the use of economic tools, principles, law etc.
		7) 207 Application of cost Accounting,	The objective of this course is to acquaint student with the accounting concepts tools and techniques.
		8) 208 Cost control and cost systems.	To ascertainment of cost, fixation of selling price, proper recording and presentation of cost data.
		9) 301 Business Finance.	It is decision to impart in depth of knowledge and professional skills required for handling the accounting and taxation related activities of business entities.

	10) 302 Resear Methodology for business.	It relates to utility of research work as, a research is accepted for more use to the society.
	11) 307 Cost Audit.	Cost Audit represent the verification of cost Account and check on the adherence to cost accounting plan.
	12) 308 Management Audit.	To identify the weakness and inefficiencies of management in dirrrent functional areas,such as production.
	13) 401 Capital Market & Finance services.	The objective of this course is to acuaint student with the capital market concent and tools and echniques for finance servioeces.
	14) 402 Industrial Economic Environment.	To provide the student with a background of various environment factors that hgave major reprcussions on busniess.
	15) 407 Recent Advances in cost and Auditing and cost system.	To provide on in depth study of the recent Advances in cost Auditing principle and Technique for identification an cost systems.
	16) 408 Project Work	To provide student with an conceptual and analytical framwork of generation of alternate project and their evaluation.



Master of Science(Computer Science)

Programmes offered

SN	Program	Program outcomes (POs)	Program Specific Outcomes (PSO)
1	M.Sc(Comp.Sci.)	PO1. CRITICAL THINKING	
			The objectives of the program shall be to provide sound academic base from which an advanced career in Computer Science can be developed. Conceptual grounding in Computer usage as well as its practical business application will be provided.
		PO2.EFFECTIVE COMMUNICATION	
		The medium of instructions for this program is English. English being the language of world students become habitual to communicate in English.	POS 2 There is great scope also exists in software industry, Company, Banking & finance.
		PO3 SOCIAL INTERACTIONS	
		In this program students are made aware of social related issues. They are made aware of optimal use of resources.	PSO3 To make the students self employed by using theoretical knowledge to start their own venture.
		P04 EFFECTIVE CITIZENSHIP	
		This program helps students for uses effective decision making and problem-solving skills in public and private life. Students has the ability to collaborate effectively as a member of a group, also actively participates in civic and community life	PSO4 To make the students able to create computer application software which are used for specific firm.
		PO5 ETHICS	
In this program students are made alert regarding business ethics, values and principles which are required for the growth of nation.			
PO6 ENVIRONMENT AND SUSTAINABILITY			

	Being Master of Science Computer Science students they become well conversant with various business requisites for environment protection and sustainability of the business.	
	PO7 SELF DIRECTED AND LIFE LONG LEARNING	
	Program curriculum inculcates the curiosity and problem solving approach which makes them self directed and learning becomes a continuous process throughout the life.	

Courses offered – Post-Graduate Master of Science (Computer Science)

Sr.No	Class	Course	Course Outcomes (Cos)
1	F.Y.M.Sc(Comp. Sci.) Semester-I	CS-101 : Principles of programming language	This course enables students to 1) To gain knowledge of OOP language. 2) To gain knowledge of C ,C++ and Java programming. 3) To gain knowledge of data structure and algorithms.
		CS-102: Advanced Networking	1) To acquire knowledge of advanced networking
		CS-103 : Distributed Database concepts.	1) To gain knowledge of principles and foundations of distributed databases. 2) To acqie knowledge of design issues, integrity control, query processing and optimizations. 3) To gain knowledg of concurency control & distributed transaction reliability.
		CS-104 : Design and Analysis of Algorithms	1) To gain knowledge of algorithm analysis techniques. 2) To acquire knowledge of varity of useful algorithm
		CS-105 : Netwok programming	1) To gain knowledge of user level knowledge of Linux . 2) To acquire knowledge of networking concepts.
	Semester-II	CS-201 : Digital image processing	1) To gain knowledge about image processing.



			2) To acquire knowledge about image.
		CS-202 : Advanced Operating System	1) To gain knowledge of C-Programming. 2) To gain knowledge of computer architecture. 3) To gain knowledge of data structure.
		CS-203 : Data mining and data warehousing	1) To gain knowledge of data mining . 2) To acquire knowledge of data warehousing.
		CS-204 : Project	1) To gain knowledge of academic project.
		CS-205 : Project with Dot Net	1) To gain knowledge of object Oriented programming concept and knowledge of web development. 2) To gain knowledge to solve one problem in many ways.
		CS-206 : Artificial Intelligence	1) To acquire knowledge of artificial intelligence. 2) To gain knowledge of data structure, design and analysis of algorithm.
3	S.Y.M.Sc(Comp.Sci.)Semester-III	CS-301 : Software Metrics and Project Management	1) To gain knowledge of software metrics and project management covers skill that are required to ensure successful medium. 2) To acquire knowledge of project management technique for process modeling. 3) To gain knowledge of software matrices.
		CS-302 : Mobile Computing	1) To gain knowledge of mobile architecture 2) To acquire knowledge of GSM architecture.
		CS-303 : Soft Computing	2) To acquire knowledge of soft computing. 2) To acquire knowledge of intelligence system. 3) To gain knowledge of all algorithms.
		CS-304 : Project	1) To gain knowledge of academic project.

			1) To gain knowledge of industrial project.
		CS-305 : Web Services	1) To gain knowledge of web services and implementation model for SOA. 2) To gain knowledge of cloud computing, virtualization and data in cloud.
		CS-308 : Business Intelligence	1) To gain knowledge of business intelligence. 2) To gain knowledge of data mining techniques.
		4 Semester -IV	CS-401 : Industrial Project



### Programme Outcome & Specific Outcome

Master of Commerce ( M Com )			
Programmes offered			
SN	Program	Program outcomes (POs)	Program Specific Outcomes (PSO)
1	M Com	1) 101 Management Accounting.	The main objective of this programme is to train the student to develop conceptual, applied and research skill as well as competencies required for effective problem solving and right decision making in routine and special activities relevant to financial management and banking transaction of a business.
		2) 102 Strategic management.	Strategic management focuses on integrating management, marketing, finance, operation, research and development, and information systems to achieve organizational success.
		3) 107 Advanced Cost Accounting.	The ascertainment of cost, fixation of selling price, proper recording and presentation of cost data.
		4) 108 Costing Technique & Responsibility Accounting.	The system of costing like standard costing and budgetary control are useful to management for controlling the cost.
		5) 201 Financial Analysis & Control.	To educate the student on quantitative analysis and to use statistical techniques for analysis of business data.
		6) 202 Industrial Economics.	To make the students understand the use of economic tools, principles, law etc.
		7) 207 Application of cost Accounting,	The objective of this course is to acquaint student with the accounting concepts tools and techniques.

		8)208 Cost control and cost systems.	To ascertainment of cost, fixation of selling price, proper recording and presentation of cost data.
		9)301 Business Finance.	It is decision to impart in depth of knowledge and professional skills required for handling the account and taxation related activities of business entities.
		10) 302 Resear Methodology for business.	It relates to utility of research work as, a research is accepted for more use to the society.
		11) 307 Cost Audit.	Cost Audit represent the verification of cost Account and check on the adherence to cost accounting plan.
		12) 308 Management Audit.	To identify the weakness and inefficiencies of management in dirrrent functional areas, such as production.
		13) 401 Capital Market & Finance services.	The objective of this course is to acuaint student with the capital market concent and tools and echniques for finance servicoes.
		14) 402 Industrial Economic Environment.	To provide the student with a background of various environment factors that hgave major reprcussions on busniess.
		15) 407 Recent Advances in cost and Auditing and cost system.	To provide on in depth study of the recent Advances in cost Auditing principle and Technique for identification an cost systems.
		16) 408 Project Work	To provide student with an conceptual and analytical framework of generation of alternate project and their evaluation.



ज्ञान देव  
Principal

Vishwalata Arts Commerce  
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Tal. Yeola Dist-Nashik



**Course Outcome – MSC (C.S)**

<b>Class</b>	<b>Course</b>	<b>Course Outcomes (Cos)</b>
F.Y.M.Sc(C omp. Sci.) Semester-I	CS-101 : Principles of programming language	This course enables students to
		1) To gain knowledge of OOP language.
		2) To gain knowledge of C ,C++ and Java programming.
		3) To gain knowledge of data structure and algorithms.
	CS-102: Advanced Networking	1) To acquire knowledge of advanced networking
	CS-103 : Distributed Database concepts.	1) To gain knowledge of principles and foundations of distributed databases.
		2) To acqie knowledge of design issues, integrity control, query processing and optimizations.
		3) To gain knowledg of concurrency control & distributed transaction reliability.
	CS-104 : Design and Analysis of Algorithms	1) To gain knowledge of algorithm analysis techniques.
		2) To acquire knowledge of varity of useful algorithm
CS-105 : Netwok programming	1) To gain knowledge of user level knowledge of Linux .	
	2) To acquire knowledge of networking concepts.	
Semester-II	CS-201 : Digital image processing	1) To gain knowledge about image processing.
		2) To acquire knowledge about image.
	CS-202 : Advanced Operating System	1) To gain knowledge of C-Programming.
		2) To gain knowledge of computer architecture.
		3) To gain knowledge of data structure.
	CS-203 : Data mining and data warehousing	1) To gain knowledge of data mining .
		2) To acquire knowledge of data warehousing.
	CS-204 : Project	1) To gain knowledge of academic project.
	CS-205 : Project with Dot Net	1) To gain knowledge of object Oriented programming concept and knowledge of web development.
		2) To gain knowledge to solve one problem in many ways.
CS-206 : Artificial Intelligence	1) To acquire knowledge of artificial intelligence.	
	2) To gain knowledge of data structure, design and analysis of algorithm.	

S.Y.M.Sc (Comp.Sci.) Semester-III	CS-301 : Software Metrics and Project Management	1) To gain knowledge of software metrics and project management covers skill that are required to ensure successful medium. 2) To acquire knowledge of project management technique for process modeling. 3) To gain knowledge of software matrices.
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Semester -IV	CS-401 : Industrial Project	1) To gain knowledge of industrial project.



*[Signature]*  
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