



Jeevan Rekha Pratisthan

AN ISO 9001:2008 Certified Organization

Mahila BCA Mahavidyalaya

Plot No. E-51, Near IT Park, M.I.D.C., Latur

COURSE OUTCOME

BACHELOR OF COMPUTER APPLICATIONS

Sr. No.	Course Name	Course Code	Course Outcome
1	Business and Technical Communication Skills	1101	CO1: To learn the basics of English grammar CO2: To learn to create sentences in English and basic techniques for appearing the GD and Interviews CO3: To learn basics of letter writing CO4: To learn to write different types of applications and report writing techniques.
2	Principles and Practice of Accounting	1102	CO1: Acquire conceptual knowledge of basics of accounting CO2: To understand the basics of Journal entries and ledger entries. CO3: To learn to prepare the different types of documents for accounting CO4: To learn to maintain the accounts of a business
3	Introduction to Programming and Problem Solving using C	1103	CO1: To understand the concept of program and its development procedure. CO2: To understand the concept of algorithms and Flowcharts for solving problems CO3: To understand the use of the C programming language to implement various algorithms, and develops the basic concepts and terminology of programming in general. CO4: Introduces the more advanced features of the C language
4	Computer Fundamentals and Operating Systems	1104	CO1: To introduce computer and its parts CO2: To understand the types of computers CO3: To understand the Concept of Operating system CO4: To understand the concept of memory management by Operating System
5	Problem Solving using C Lab	1201	CO1: To understand the concept of control statements in programming CO2: To learn the implementation of different operators and functions in C Programming Language CO3: To describe the files processing mechanism in C CO4: To develop programs using functions
6	GNU / Linux LAB	1202	CO1: To learn the basics of Unix Operating System CO2: To understand the file structure of Unix CO3: To learn the working of vi editor CO4: To perform shell scripting



7	INTRODUCTION TO LOGIC CIRCUITS AND DIGITAL DESIGN	2101	<p>CO1: Able to perform the conversion among different number systems; Familiar with basic logic gates -- AND, OR & NOT, XOR, XNOR; Independently or work in team to build simple logic circuits using basic.</p> <p>CO2: Understand Boolean algebra and basic properties of Boolean algebra; able to simplify simple Boolean functions by using the basic Boolean properties.</p> <p>CO3: To understand the concept of combinational Circuits</p> <p>CO4: Familiar with basic sequential logic components: SR Latch, D Flip-Flop and their usage and able to analyze sequential logic circuits.</p>
8	DISCRETE STRUCTURES AND GRAPH THEORY	2102	<p>CO1: Define and relate basic notions in set theory</p> <p>CO2: Define and classify binary relations</p> <p>CO3: To understand the concept of permutation and combination</p> <p>CO4: Apply algorithms and theorems from graph theory on solving problems</p>
9	ADVANCED C	2103	<p>CO1: To learn the concept of creating multiple variables using arrays</p> <p>CO2: To understand the concept of pointers.</p> <p>CO3: To learn the mechanism of storage in C</p> <p>CO4: To describe the mechanism of graphics using C</p>
10	ENVIRONMENTAL SCIENCE & RTI	2104	<p>CO1: To understand the various energy resources</p> <p>CO2: To make aware of different types of pollutions and issues caused by them.</p> <p>CO3: To make aware of disposal of e-waste.</p> <p>CO4: To understand the RTI and its mechanism.</p>
11	ADVANCED C LAB	2201	<p>CO1: To develop the programs using arrays and to implement the concept of pointers</p> <p>CO2: To understand and to develop the programs for memory management</p> <p>CO3: To develop program for file handling</p> <p>CO4: To develop the programs for computer graphics using C language.</p>
12	OPEN SOURCE OPERATING SYSTEM AND APPLICATIONS SOFTWARE'S LAB*	2202	<p>CO1: To learn the installation and management of Linux OS.</p> <p>CO2: To learn the installation and configuration of PHP</p> <p>CO3: To learn the installation and configuration of MySql</p> <p>CO4: To learn to develop programs using PHP and</p>



			create database using MySql
13	Introduction to Microprocessor	3101	CO1: Understand the history and overview of microprocessors. CO2: Study the 8085 microprocessor with its architecture and pin out diagram. CO3: Understand the 8085 microprocessor programming and interrupt concept. CO4: Study I/O interface of 8237 and 8251 microprocessor. Overviewed different microprocessors and different types of memory.
14	Numerical Methods and Algorithms	3102	CO1: Understand the problem solving methods of linear and non-linear equations. CO2: Understand the interpolation using different methods. CO3: Study numerical integration of equation with different rules and formula. CO4: Implement numerical solution of differential and partial differential equations with different methods.
15	Computer Organization and Architecture	3103	CO1: Understand the computer structure with its components, instruction cycle and interrupts. CO2: Recognize the internal and external memory with its characteristics and different models. CO3: Understand the I/O modules, I/O channels and processes. Understand the DMA concept. CO4: Study advanced architecture of system with parallel processing models and RISC and CISC.
16	File Structure and Database Management System	3104	CO1: Understand the record organization in file, overview of indexing and hashing with their types. CO2: Understand the query processing overview, query expression and optimization. CO3: Understand the concept of transaction with states, properties and operations. Understand the schedule with its types. CO4: Understand the lock concept with its types and conversion. Understand deadlock handling and different protocols.



17	Microprocessor Lab	3201	<p>CO1: Successfully run the programs to find the addition and subtraction of 8 bit and 16 bit numbers.</p> <p>CO2: Successfully run the programs to find the addition and subtraction of 8 bit and 16 bit BCD numbers.</p> <p>CO3: Successfully run the programs to find maximum and minimum numbers in array and sort numbers in ascending and descending order.</p> <p>CO4: Successfully run programs to convert HEX numbers to BCD. Study hardware and software interrupts.</p>
18	Database Management System LAB	3202	<p>CO1: Understand to create table and database using query.</p> <p>CO2: Study operations of database using query.</p> <p>CO3: Implemented nested query and understand to alter table.</p> <p>CO4: Understand Normalization and multi table query execution.</p>
19	DATA STRUCTURES AND FILE ORGANISATION	4101	<p>CO1: Understand the concept of various data structures, its classification and array.</p> <p>CO2: Understand basic concept, implementation, types and operations of data structures - Linked List, Stack, Queue</p> <p>CO3: Understand basic concept, terminology and traversals of Tree and Graph data structures. Apply Algorithm for solving problems like sorting, searching of data.</p> <p>CO4: Understand different ways of organization of file, operations of files, the hash function and its types.</p>
20	INFORMATION SYSTEMS ANALYSIS AND DESIGN	4102	<p>CO1: Understand the system concept, its development phases with different roles.</p> <p>CO2: Understand the feasibility analysis, information requirement analysis and normalization.</p> <p>CO3: Understand the tools of SSAD, system design models.</p> <p>CO4: Understand different development methodologies, testing methods with case studies.</p>



21	INTRODUCTION TO SOFTWARE ENGINEERING	4103	<p>CO1: Understand the software engineering methods, layers and process framework. Study of different software development life cycle model.</p> <p>CO2: Understand the software project planning, different cost estimation techniques, different software scheduling methods, software prototyping.</p> <p>CO3: Understand different software development levels with detail overview and methods.</p> <p>CO4: Understand different software management activity, product assurance concepts and configuration management.</p>
22	OBJECT ORIENTED PROGRAMMING USING C++	4104	<p>CO1: Understand the procedural and object oriented paradigm with concepts of streams, variables, functions, control statements.</p> <p>CO2: Understand dynamic memory management techniques using pointers, constructors, destructors, etc</p> <p>CO3: Understand the concept of Operator overloading, Inheritance, Virtual functions with programs.</p> <p>CO4: Understand the unformatted I/O operations, File handling concepts.</p>
23	DATA STRUCTURES LAB	4201	<p>CO1: Understand the array operations and singly linked list implementation with programs.</p> <p>CO2: Study doubly and circular linked list and stack operations using programs.</p> <p>CO3: Study queue implementation, operations of queue and tree traversals using programs.</p> <p>CO4: Implemented graph traversals, searching and sorting Algorithms using programs.</p>
24	OBJECT ORIENTED PROGRAMMING C++ LAB	4202	<p>CO1 : To understand the concept of I/O operators, data types, variables, functions, various decision control Statements using programs.</p> <p>CO2: Understand the object oriented paradigm with concepts of classes, functions and objects. Understand different types of constructors with programs.</p> <p>CO3: Demonstrate the operator overloading and inheritance concepts and its types with the help of programs.</p>



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			CO4: Understand the console I/O operations and file handling methods with the help of programs.
25	Data Communication and Networking	5101	CO1: Understand the concepts of communication, transmission and modulation. CO2: Understand the concepts of transmission media, multiplexing and channel allocation. CO3: Understand the fundamental of networking, network models etc CO4: Understand the network issues, types of services and collisions.
26	Java Programming	5102	CO1: Understand the overview of java language by variables, arrays, operators, classes, objects, constructors and their methods. CO2: Understand method overloading, inheritance, overriding, exception handling and special features of java. CO3: Understand the overview of threading, multithreading, I/O applets, applet initialization, termination with programs. CO4: Understand the overview of java library, networking, collection interface, AWT and layout managers with programs.
27	Visual and Database Programming	5103	CO1: Understand the .net framework, its architecture and different environment tabs. CO2: Understand VB.NET language with variables, arrays, functions, control flow statements etc CO3: Understand .net framework components with their properties, methods and events. Overview of object oriented programming and OLE with components. CO4: Understand database programming with ADO.NET. Successfully fetched records from database and Report generated from database.
28	Internet Programming	5104	CO1: Understand HTTP overview, session management, cookies etc CO2: Understand the concepts of web server and their security managements. CO3: Understand the structure and presentation of HTML document.



			CO4: Understand JavaScript and advanced JavaScript in detail.
29	JAVA Programming LAB	5201	CO1: Understand the java language with classes, objects, array, control statements, constructors and their methods by running java programs. CO2: Understand method overloading, overriding and special features of java with programs. CO3: Implemented exception handling, threading and I/O applet functions with programs. CO4: Understand and run java programs of implementation of Applet, implementation of string handling functions, implementation of AWT with different methods.
30	Internet Programming Lab	5202	CO1: Successfully created HTML document with Tables, Frames using different tags layout. CO2: Successfully run a HTML program using JavaScript with variables, control structures and popup boxes. CO3: Understand object based programming and run programs with function objects. CO4: Understand JavaScript and Successfully run programs of JavaScript with HTML.
31	Management Information System	6101	CO1: Understand the concepts of systems, Information system, information, their types, collection methods etc. CO2: Understand the MIS, its overview, subsystems, and hierarchy of management activity. CO3: Understand the levels of management, decision making concepts. CO4: Understand to develop information system, pitfalls in MIS development and functional MIS.
32	Enterprise Resource Planning	6102	CO1: Understand the detail overview of ERP, ERP business engineering. CO2: Understand the business engineering with IT, ERP with IT, ERP with management. CO3: Understand the business model for ERP, ERP implementation. CO4: Understand the ERP and competitive strategy, their guidelines.



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33	Intelligent Property Rights, Patents and Cyber Laws	6103	<p>CO1: Understand the concept of intelligent property rights, Information Technology Related Intellectual Property Rights, database, semiconductor chips and domain name protection.</p> <p>CO2: Understand the concept of Patents, copyright, trademark and designs with ownership and enforcement.</p> <p>CO3: Understand the Enforcement of Intellectual Property Rights, cyber law and law of digital contracts.</p> <p>CO4: Understand the concept of Information Technology Act 2000, Intellectual Property Issues in Cyber Space, Cyber Law Issues for Management.</p>
34	Elective-3 Web Technology	6104	<p>CO1: To understand the working of HTTP protocol.</p> <p>CO2: To learn the structure and various tags of HTML.</p> <p>CO3: To understand the architecture of CGI and to introduce ASP programming.</p> <p>CO4: To understand the installation and configuration of Apache Tomcat server.</p>
35	Project	6201	<p>CO1: To learn to collect the requirements of the software project</p> <p>CO2: To do analysis of the software requirements and finalize them.</p> <p>CO3: To prepare the various designs of the software project.</p> <p>CO4: To Develop, test and prepare the final project report</p>



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Bachelor of Design

Sr. No.	Course Name	Course Code	Course Outcome
	Drawing And Sketching (C)	1011	1) Draw landscape, portrait using shading/ coloring technique with specified tools, techniques and mediums. 2) Sketch motifs as an interpretation of natural, geometrical objects and further convert them into abstract and stylized form. 3) Draw various technical steps involved in product development process. 4) Draw Object, perspective, still life and human figurative drawings
	Environmental Studies (C)	1012	1) Build awareness about physical environment and its components. 2) Gain Knowledge of natural resources and their types. 3) Develop the concept of ecology and its components.
	Fundamental Of Design (B)	1013	1) Apply the elements of design in apparel design. 2) Apply a principles of design in apparel design. 3) Justify the psychological, formal and symbolic qualities of elements and principle of design
	Communication Skills (B)	1014	1) Apply communication skills in different linguistic functions. 2) Apply the skills related to listening reading, writing, and speaking. 3) Effectively use the business communication skills.
	History Of Art & Design (B)	1015	1) Express the influence of art & culture on the society as well as on fashion. 2) Express the contemporary art and its influence on fashion..
	Technical DrawingFoundation (C)	2011	1) Draw technical drawing of design as specified. 2) Analyze technical and figurative drawing
	Advance Design (B)	2012	1) Describe and apply various color theories in design. 2) Depict and identify colour characteristic



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			in relation with color psychology. 3) Relate Elements and Principles of design in developing a product in respect with specific theme.
	Material Studies (C)	2013	Use and apply the different materials that create different approaches and feelings in the product. 2) Relate various materials and explore them to enhance and reward various products.
	Computers Application In Data Management And Presentation (C)	2014	1) Use the basic principles of computer hardware, software & other devices of computers. 2) Use word processor, spreadsheets and presentation .
	Art Appreciation (B)	2015	1) Distinguish various Indian art and performing art forms in terms of its characteristics and features. 2) To be able to discuss the application of art forms in design.
	Fundamentals Of Illustration & Design Concept (A)	3111	1) Use the skill of draw to render garment on croqui. 2) Apply the Concept Of Design Process In product development 3) Illustrate basic garments. 4) Identify famous fashion illustrators for their individual style and demonstrate individualstylized drawing inspired from them
	Introduction To Pattern Making (Flat And Draping) (A)	3112	1) Create drafting patterns for foundation for kids and adult's styles using flat pattern and draping method. 2) 2)Draft flat patterns as well as on dress form for foundation styles in upper torso and skirts.
	Introduction To Textile(C)	3113	1) Recognize specified fibers, yarns, weaves., knits types, preparatory process and finishing process. 2) Apply the textiles in apparel in respect with function and aesthetics . 3) Show that textile forms the core of fashion that demands its appropriate application in technical and aesthetic form
	History Of Fashion (Indian & Western) And Women's Studies(A)	3114	1) Trace the birth, evolution, decline, revival and most recent developmentsin Indian and western fashion. 2) Decode the fashion styles in



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			accordance with specific era. 3) Interpret the demographic profile of women in India & the present situation in the status of women.
	Fashion Studies (A)	3115	1) Recognize the basic fashion terminology, fashion categories and the working of the fashion industry. 2) Compare the influences of various designers and fashion revolutions with respect to social, cultural and psychological aspects on the fashion industry in different decades. 3) Recognize the major fashion centers globally and their importance. Identify various theories, movements and factors affecting fashion
	Basic Fashion Illustration & Design Concept (A)	4111	1) Illustrate the male fashion figure & rendering with different color mediums. 2) Demonstrate and render fashion garment components categories /styles designs. 3) Apply the design process to develop women's wear collection
	Basic Pattern Making (Flat And Draping) (A)	4112	1).Draft components such as sleeves, collars-and style lines in women's wear using standard measurement, and using flat-pattern and draping methods. 2) Create patterns and designs manipulating fabric using flat pattern and draping technic to draft chudidar and salwar
	Introduction To Garment Construction(A)	4113	1) Demonstrate sewing and construction skills using hand and machine stitches for different components of garments like seams and seam finishes, pocket, plackets, openings and fasteners. 2)Stich the specified components of garmentsin men's and women's apparel as per industry requirements.
	Computer Aided Rendering Technique In Fashion(A)	4114	1).Use Raster Graphics software as a tool to represent and create visuals, using image editing and object creation. 2) Explain and use manipulation of Raster Graphics software
	Fashion Management, Marketing and Merchandising (C)	4115	1) Explain the basic management concepts, applications & processes. 2) Explain the application in decision making , motivation terms such as leadership and communication for effective fashion business 3) Apply concepts of marketing in



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			fashion business. 4) Identify role of merchandiser and merchandising in garment industry
	Advance Fashion Illustration & Design Concept(A)	5111	1) Illustrate the kids fashion figures 2) Render different fabrics and garments using different techniques. 3) Draw different apparel categories and components of garments in the form of flat drawings. 4) Illustrate kids & men's wear by implementing design development process
	Advance Pattern Making (Flat, Draping And Grading) (A)	5112	1) Create and produce advance patterns by flat and draping method for women's wear. 2) Prepare patterns by grading methods and layout and marker planning by manual and computerized methods used in Industry
	Basic Garment Construction(A)	5113	1) Construct and demonstrate actual garments for women' wear with standard and customized measurement. 2) Construct and demonstrate various types of torso,salwar and Churida
	Computer Application In Fashion(2D) (A)	5114	1) Apply and demonstrate various type of textile weaves with the use of computer software. 2) Practice garment rendering using various tools for digital fabric, texture, Pattern of fabric and accessories creation in using CAD application. 3) Use fashion software that is specifically used in digital garment development.by industry.
	Indian Textile And Embroideries (A)	5115	1) Explain the history and characteristic feature of the traditional textile crafts and embroideries of India. 2) Apply the regional embroidery techniques &traditional textile crafts for various products current fashion.
	Craft Research And Design (A)	6111	1) Document the craft , its process and promotional activities. 2) Assist the crafts community to promote their craft for diversified consumers using visual communication techniques.



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	Introduction To Entrepreneurship And IPR(C)	6112	
	Advance Garment Construction(A)	6113	<ol style="list-style-type: none">1) Construct garments with various specified style lines for specified garments of Men's and Women's Wear.2) Create designs for customized clothing and mass category.
	Fashion Forecasting(A)	6114	<ol style="list-style-type: none">1) Apply forecasting techniqueto determine market demand to effectively interpret the same in design process.2) Discuss the latest trends & technologies that affect the fashion forecast.
	Fashion Forecasting(A)	6115	<ol style="list-style-type: none">1) Practice various specified surface ornamentation techniques on textiles as a value addition in the process of designing.2) Implement various dyeing and printing techniques used specifically for various fabrics.3) Differentiate various techniques of surface ornamentation which can be used as per the specific requirement of the end product.
	Men's wear(D)	7111	<ol style="list-style-type: none">1) Evaluate the requirement of domestics as well as international brands through research for men's garments.2) Apply the same in developing a range for men's wear based on market research.
	Women's wear(D)	7112	<ol style="list-style-type: none">1) Evaluate the requirement of domestics as well as international brands through research for womens garments.2) Apply the same in developing a range for men's wear based on market research.
	Kid's Wear(D)	7113	<ol style="list-style-type: none">1) Evaluate the requirement of domestics as well as international brandsthrough research for Kid's garments2) Apply the same in developing a range for kid's wear based on market research.
	Creative Pattern Making (A)	7115	<ol style="list-style-type: none">1) Read & implement pattern according to the design by applying the flat



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			pattern making and draping principles to develop creative garments.
	Quality Assurance Management(A)	7116	1) Read & implement pattern according to the design by applying the flat pattern making and draping principles to develop creative garments.
	Professional Skills and Portfolio Development(A)	8111	1) Read & implement pattern according to the design by applying the flat pattern making and draping principles to develop creative garments.
	Retail and Visual Merchandising (C)	8112	1) Enumerate the Importance of visual merchandising in fashion industry through elements and theories for store display. 2) Present SWOT analysis based on the listed factors.
	Fashion Styling And Costume Designing(C)	8113	1) Read & implement pattern according to the design by applying the flat pattern making and draping principles to develop creative garments.
	Design Collection (B)	8114	1) Implement the design process to develop a design collection that is in sync with the fashion industry. 2) Showcase design collection which is aesthetically appealing and commercially viable as per that industry requirement.



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B.Sc and B.Sc (C.L.S.)

Sr. No.	Course Name	Course Code	Course Outcome
01	FUNDAMENTALS OF MICROBIOLOGY	107101	<ul style="list-style-type: none">To introduce the subject of Microbiology as one of the fundamental science subject.To understand the cell structure of prokaryotic cellTo compare prokaryotic cell structure with that of eukaryotic cell.To understand the nature of growth in prokaryotes.To understand the principles of nutrition, cultivation and preservation of microorganisms
02	APPLIED MICROBIOLOGY	107102	<ul style="list-style-type: none">To learn different staining procedures used in the study of morphological and structural aspects of bacteriaTo understand the concepts of aseptic techniques in bacterial cultivation and enumeration.To understand different methods of sterilization and disinfection.To learn different instruments that assist in the microbiology laboratory.
03	FUNDAMENTALS OF MICROBIOLOGY	207101	<ul style="list-style-type: none">To understand the chemical basis of cell structure.To know the important biomolecules of the cell and understand the relation between the function of cell and the biomolecule.To understand the important characteristics of selected groups of microorganisms, viz. Viruses, Rickettsia and Chlamydia.
04	APPLIED MICROBIOLOGY	207102	<ul style="list-style-type: none">To understand the importance of microorganisms in air with respect to incidence of infections, and realize the need for air sanitation.To understand the role of microorganisms in the preparation of some fermented foods, beverages and waste utilization.To understand the effect of environment on survival and growth of bacteria
05	ANIMAL DIVERSITY AND PHYSIOLOGY	105101	<ul style="list-style-type: none">To study the invertebrate classification.To understand some of the specialized features of each invertebrate phylum



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			<ul style="list-style-type: none">• To get a basic knowledge of the working of the various physiological systems within the animal kingdom.
06	ANIMAL DIVERSITY, ECOLOGY AND BIODIVERSITY	105102	<ul style="list-style-type: none">• To study the vertebrate classification.• To understand some of the specialized features of each vertebrate class• To study the interactions between animals and the environment
07	GENETICS, BIOCHEMISTRY AND EVOLUTION	205101	<ul style="list-style-type: none">• To study the basics of genetics• To understand the biochemistry within the animal system• To study how the animal life evolved
08	BASIC EMBRYOLOGY AND BIOTECHNOLOGY	205102	<ul style="list-style-type: none">• To study the basic concept of embryology• To study basic biotechnology and its applications• To study how the animal life evolved
09	ENVIRONMENTAL SCIENCE	100101	<ul style="list-style-type: none">• To bring about awareness about the environment and its resources.• To study the various concepts for conservation of the environment.
10	Women's Issues – I	200101	<ul style="list-style-type: none">• To understand new and emerging women's issues in India.• To empower to deal with these issues & problems.