

BACHELOR OF COMPUTER APPLICATIONS

SEMESTER - I

ENGLISH I	APPLIED MATHEMATICS
<ol style="list-style-type: none">1. Extensive Reading2. Tracing The Texture of Texts3. Anaphoric and Cataphoric References4. Intensive Reading5. Matching Discourse Functions with Corresponding Linguistic Structures6. Coherence and Grammatical Linkers7. Critical Thinking8. Components of an Argument9. Oral Communication Skills10. Functional Grammar11. Parts Of Speech	<ol style="list-style-type: none">1. Theory of equations2. irrational roots and imaginary roots3. Binomial, Exponential and logarithmic series4. Arithmetic Progression5. Geometric progression6. Linear Algebra7. Matrix operations8. Geometric properties of plane9. linear transformation10. Linear systems and matrices11. Trigonometry12. Probability13. Baye's theorem14. Binomial and Normal distributions

COMPUTER CONCEPTS & PROBLEM SOLVING	INTRODUCTION TO DIGITAL LOGIC FUNDAMENTALS
<ol style="list-style-type: none"> 1. Evolution of Computers 2. Organization of Modern Digital Computers 3. Operating System 4. Graphical User Interface 5. Word Processing 6. Macros 7. Converting doc into www Pages 8. Spreadsheet Programs 9. Managing workbooks 10. Problem Solving aspects 11. Implementation of Algorithms 12. Efficiency of Algorithms 13. Analysis of Algorithm 14. Factoring Methods 	<ol style="list-style-type: none"> 1. Binary Systems 2. Digital Systems, 3. Number Base Conversions 4. Complements 5. Boolean Algebra and Logic Gates 6. Minimization: K-Map Method 7. Combinational Circuits 8. Binary Adder, Subtractor 9. Decoders 10. Encoders 11. Multiplexers. 12. Latches 13. Flip-Flop 14. Registers 15. Counters 16. Asynchronous Sequential Circuit

Programming In C
<ol style="list-style-type: none"> 1. C fundamentals 2. Library functions 3. Data input output functions 4. Flow of control 5. Passing arguments 6. Recursions 7. Storage Classes 8. Passing arrays to functions 9. Multi-dimension arrays 10. Pointers 11. Passing pointers to Functions 12. Files Processing

SEMESTER - II

ENGLISH II	BUSINESS STATISTICS
<ol style="list-style-type: none">1. Formal letters of invitation2. Making posters3. Enriching word power4. Intensive reading5. E mail writing6. Expanding quotes7. Writing project proposals8. writing project proceedings9. writing project evaluation10.news reporting11.Basics of editing12.Advertisements13.grammar tests	<ol style="list-style-type: none">1. Time Series2. Method of Least Square3. Index Numbers4. Probability5. Addition and Multiplication Theorem –Baye’s6. Theorem7. Sampling Techniques8. Tests of Significance9. Correlation10.Regression

DATA STRUCTURES	MICROPROCESSORS
<ol style="list-style-type: none">1. Problem solving2. Efficiency–Analysis3. Abstract Data Type (ADT)4. List ADT5. Stack ADT6. Queue ADT7. Binary Trees8. Binary Search Trees9. AVL Trees10.Hashing11.Sorting methods12.Graph basics13.Shortest-Path Algorithms14.Un weighted Shortest Paths15.Minimum Spanning Tree16.Depth First Search, Breadth First Sea	<ol style="list-style-type: none">1. Microprocessors2. Assembly Languages3. 8085 MPU4. 8085 Interrupts5. maskable interrupts6. data transfer instructions7. stack instructions8. Addressing modes9. Assembly programming10.arithmetic operations11.logical operations12.8085 applications13.8086 microprocessor14.8051 microcontrollers

INTRODUCTION TO ACCOUNTING

1. Commerce definition
2. Sole Proprietor
3. Partnership
4. Public sector: Features and merits
5. Marketing Definition
6. function of marketing
7. Fundamentals of Bookkeeping
Journal – Ledger Trail balance
8. Final Accounts
9. Trading and Profit and Loss
Accounts
10. Balance Sheet
11. Accounts of non-profit
organizations

SEMESTER - III

WEB DESIGNING	PC HARDWARE & NETWORKING
<ol style="list-style-type: none">1. Introduction to HTML2. Graphics to HTML Documents3. Style Sheets4. Creating Style Sheet Tools5. JavaScript6. Document Object Model7. Objects in HTML8. Event Handling9. Built-In Objects10. User Defined Objects11. Cookies.12. DHTML13. Cascading Style Sheets14. External Style Sheets15. JavaScript Style Sheet	<ol style="list-style-type: none">1. Organization of computer2. Software and hardware3. Input/output devices4. Assembling and disassembling5. Network Topologies6. The OSI model7. TCP/ IP Model8. Network adapters9. Cabling and troubleshooting.10. Routers11. Switches12. Sharing files and folders13. Network troubleshooting14. Types of Internet Connections

SOFTWARE ENGINEERING	OBJECT ORIENTED PROGRAMMING
<ol style="list-style-type: none"> 1. Definition of software engineering 2. Software Engineering paradigms 3. Software Project Planning 4. Software Requirement Analysis 5. Software Risks 6. Software Configuration 7. Management System Analysis 8. Modelling the System Architecture 9. The elements of the analysis model 10. Cardinality and Modality 11. Classical Analysis Methods 12. Software Design Principles 13. Cohesion 14. Coupling 15. Software Testing Methods 	<ol style="list-style-type: none"> 1. Object-Oriented Paradigm 2. Elements of OOP 3. C++ Fundamentals 4. Classes and Objects 5. Constructors and Destructors 6. Operator Overloading 7. Inheritance 8. Virtual Functions 9. Polymorphism 10. Friend Operator Function 11. C++ Streams 12. Console Streams 13. File Streams 14. Exception Handling

COMPUTER ORGANIZATION	PERSONALITY DEVELOPMENT
<ol style="list-style-type: none"> 1. Basic Building Blocks I/O 2. ALU and Its Components 3. Control Unit and Its Functions 4. Addressing Techniques 5. Registers 6. Main Memory 7. Cache 8. Virtual Memory 9. Buses 10.storage devices and printers 11.8085 microprocessors 	<ol style="list-style-type: none"> 1. Personality: Definition 2. Biological Measures – Behavioural Assessment 3. Self-Other accuracy in predicting behaviour Self-Presentation tactics 4. the measurement of self-esteem 5. Perceiving the social world 6. Cognitive social psychology 7. Impression Management 8. Cognitive Dissonance 9. Time Management 10.Psychometrics 11.Body Language 12.Peer Pressure and Bullying

SEMESTER - IV

WEB PROGRAMMING USING PHP	OPERATING SYSTEMS
<ol style="list-style-type: none">1. PHP with web server2. Flow Control – Arrays3. Web Protocols - HTML scripts and Form4. Embedding PHP code into HTML5. Adding dynamic content6. file handling7. Functions8. Call by value and call by reference9. Session10. Object Oriented Programming in PHP11. Abstract class – Inheritance - Using Final keyword - Exception Handling12. MySQL Architecture	<ol style="list-style-type: none">1. Computer System Organization2. Computer System Architecture3. Computer System Structure4. Operating System Operations5. Multithreading Models6. CPU Scheduling7. Semaphores8. Methods for handling Deadlocks9. Contiguous Memory allocation10. Paging11. Thrashing12. Virtual Memory13. Directory and Disk Structure14. File System Implementation15. Directory Implementation

COMPUTER NETWORKS	DATABASE MANAGEMENT SYSTEMS
<ol style="list-style-type: none"> 1. Direction of Data flow 2. types of Connections 3. Topologies 4. Protocols and Standards 5. ISO / OSI model 6. Transmission Media 7. Hamming code 8. Packet Switching and Datagram approach 9. IP addressing methods 10. Routers 11. Multiplexing – Demultiplexing 12. Congestion Control 13. Domain Name Space 14. Security 15. Cryptography 	<ol style="list-style-type: none"> 1. Database Systems 2. Characteristics of DBMS 3. Architecture of DBMS 4. Database Models 5. ER Model 6. Relational Database Model 7. Relational Algebra 8. Functional dependencies 9. Normalization 10. Data Retrieval 11. SQL Plus 12. Transaction Control 13. Language Query Processing 14. Distributed Architecture 15. Concurrency Control 16. Backup & Recovery Techniques

ENTERPRISE RESOURCE PLANNING
<ol style="list-style-type: none"> 1. Integrated Management Information 2. Supply Chain Management 3. Integrated Data Model 4. Benefits of ERP 5. Building the Business Model 6. ERP Implementation 7. ERP domain MPGPRO 8. Market Dynamics 9. Dynamic Strategy 10. Multi-Client Server Solution 11. Open Technology 12. User Interface 13. Application Integration 14. Basic Architectural Concepts 15. System Control Interfaces

SEMESTER - V

Specialisation in Multimedia and Animation

MULTIMEDIA SYSTEMS	INTRODUCTION TO JAVA PROGRAMMING
<ol style="list-style-type: none">1. Using text in Multimedia2. Font Editing and Design Tools3. Hypermedia and Hypertext4. Sound5. Images6. Animation7. Video8. Evaluating a compression system9. Video compression techniques10. JPEG image compression standard11. MPEG motion video compression standard12. DVI Technology13. Multimedia Hardware14. Internetworking15. Tools for WWW16. Designing WWW	<ol style="list-style-type: none">1. Features of java2. JDK Environment & tools3. OOPs Concepts4. Structure of java program5. Decision Making6. One Dimensional arrays7. Two Dimensional array8. Creating Classes and objects9. Inheritance10. Interfaces11. Abstract classes and methods12. Implementation of Polymorphism13. Method Overloading14. Method Overriding15. Nested and Inner classes16. Packages17. Wrapper classes

INTRODUCTION TO PYTHON PROGRAMMING	SKETCHING & DRAWING
<ol style="list-style-type: none"> 1. History of Python 2. Python features 3. Standard data types 4. Type Conversion, 5. String manipulations 6. Lists 7. matrices 8. Built –in Functions and methods 9. Tuples 10.Dictionary 11.I/O function 12.File and Directory related methods 	<ol style="list-style-type: none"> 1. Indoor & Outdoor Sketching & Drawing 2. Basics of Sketching & Drawing 3. Shading in Different Angles of Pencil Strokes 4. Paper Division & Forming 5. Human Anatomy 6. Geometrical Drawing 7. Perspective Drawing 8. Still Life- Compositions 9. Mediums and Techniques of Paintings 10.Clay Modelling

GRAPHIC DESIGN & VISUAL ARTS
<ol style="list-style-type: none"> 1. Principles of Compositional Design 2. Directional Movement 3. Windows Paint 4. Color Knowledge 5. Knowledge About Pixels 6. Vector Graphics 7. Transforming & Shaping 8. Weld & Intersection of Objects 9. Color & Fills 10.Special Effects 11.Raster Graphics 12.Adobe Photoshop 13.Straightening and Cropping an Image 14.Adjusting Lightness With the Dodge Tool

SEMESTER - V

Specialisation in Data Analytics

MULTIMEDIA SYSTEMS	INTRODUCTION TO JAVA PROGRAMMING
<ol style="list-style-type: none">1. Using text in Multimedia2. Font Editing and Design Tools3. Hypermedia and Hypertext4. Sound5. Images6. Animation7. Video8. Evaluating a compression system9. Video compression techniques10. JPEG image compression standard11. MPEG motion video compression standard12. DVI Technology13. Multimedia Hardware14. Internetworking15. Tools for WWW16. Designing WWW	<ol style="list-style-type: none">1. Features of java2. JDK Environment & tools3. OOPs Concepts4. Structure of java program5. Decision Making6. One Dimensional arrays7. Two Dimensional array8. Creating Classes and objects9. Inheritance10. Interfaces11. Abstract classes and methods12. Implementation of Polymorphism13. Method Overloading14. Method Overriding15. Nested and Inner classes16. Packages17. Wrapper classes

INTRODUCTION TO PYTHON PROGRAMMING	MACHINE LEARNING
<ol style="list-style-type: none"> 1. History of Python 2. Python features 3. Standard data types 4. Type Conversion, 5. String manipulations 6. Lists 7. matrices 8. Built –in Functions and methods 9. Tuples 10.Dictionary 11.I/O function 12.File and Directory related methods. 	<ol style="list-style-type: none"> 1. Types of machine learning 2. Supervised learning 3. Linear Regression 4. Multilayer perceptron 5. Decision trees 6. Classification of regression trees 7. Probability and Learning 8. Nearest Neighbour methods. 9. Linear Discriminant Analysis 10.Principal component analysis 11.The Genetic algorithm 12.Markov Chain Monte Carlo methods 13.Baysean Networks 14.14. Hidden Markov Models

R Programming
<ol style="list-style-type: none"> 1. Evolution of R 2. R – Data Types, R-Operators 3. R – Decision Making 4. R – Loop-R 5. R – Function 6. Lists 7. Vector 8. R – Matrices 9. R – Factors 10.R – Data 11.Working with Tables 12.Control Statements

SEMESTER - V

Specialisation in Database Systems

MULTIMEDIA SYSTEMS	INTRODUCTION TO JAVA PROGRAMMING
<ol style="list-style-type: none">1. Using text in Multimedia2. Font Editing and Design Tools3. Hypermedia and Hypertext4. Sound5. Images6. Animation7. Video8. Evaluating a compression system9. Video compression techniques10. JPEG image compression standard11. MPEG motion video compression standard12. DVI Technology13. Multimedia Hardware14. Internetworking15. Tools for WWW16. Designing WWW	<ol style="list-style-type: none">1. Features of java2. JDK Environment & tools3. OOPs Concepts4. Structure of java program5. Decision Making6. One Dimensional arrays7. Two Dimensional array8. Creating Classes and objects9. Inheritance10. Interfaces11. Abstract classes and methods12. Implementation of Polymorphism13. Method Overloading14. Method Overriding15. Nested and Inner classes16. Packages17. Wrapper classes

INTRODUCTION TO PYTHON PROGRAMMING	MOBILE APPLICATION DEVELOPMENT
<ol style="list-style-type: none"> 1. History of Python 2. Python features 3. Standard data types 4. Type Conversion, 5. String manipulations 6. Lists 7. matrices 8. Built –in Functions and methods 9. Tuples 10.Dictionary 11.I/O function 12.File and Directory related methods. 	<ol style="list-style-type: none"> 1. The Ingredients of an Android Application 2. Eclipse for Android Software Development Building a User Interface 3. Phone Gap 4. Phone Gap API 5. Apache Cordova 6. jQuery Core 7. DOM Element Selection And Manipulation

MACHINE LEARNING-R PROGRAMMING
<ol style="list-style-type: none"> 1. Types of learning 2. Supervised learning 3. Logistic regression. 4. Classification techniques 5. Naive Bayes 6. Support vector machines 7. Model selection and feature selection 8. Knime tool 9. Weka Tool. 10.K means algorithm 11.R for Un Supervised learning 12.R Flow control 13.Viewing Named Objects 14.Matrix, Data Frame, List 15.ggplot - High-level plots

SEMESTER - VI

Specialisation in Multimedia and Animation

COMPUTER GRAPHICS	DATA WAREHOUSING AND DATA MINING
<ol style="list-style-type: none">1. Video display devices2. Drawing line, circle and ellipse generating algorithms3. Two-dimensional Geometric Transformations4. Windowing and Clipping5. Three-dimensional concepts6. Object representations7. Bezier curves and surfaces8. Geometric and Modelling transformations9. Visible Surface Detection Methods10. Classification11. hidden surface removal12. Computer Animation13. Creating interactive multimedia14. Multimedia Authoring Systems	<ol style="list-style-type: none">1. Data Warehouse2. Multidimensional Data Model3. Data Warehouse Architecture4. Pre-processing5. Data Mining Primitives6. Association Rule Mining7. Classification and Prediction8. Decision Tree Induction9. Bayesian Classification10. Cluster Analysis11. Partitioning methods12. Outlier Analysis13. Web Mining14. Text Mining15. Spatial Mining

ONLINE ADS DESIGNS AND MANAGEMENT	2-D ANIMATION
<ol style="list-style-type: none"> 1. Photoshop 2. GIMP 3. Wire Framing 4. HTML 5 5. Google Studio For Labs 6. Fundamentals of Advertising 7. Critical Thinking 8. Digital Layout 9. Dynamics of Mass Communication 10. Advertising Copywriting 11. Presentation of Concept 12. Modern Graphic Design 13. Design Building Blocks Essentials 14. Photography and Visual Identity 15. Layout Design 16. Preparing your Portfolio 17. Google Search Ads 18. Create Logo 	<ol style="list-style-type: none"> 1. Basic factors affecting the illusion of motion 2. Video animation 3. Prevailing file format standards 4. Application in the visual arts 5. Import and export formats 6. Tools and commands palettes 7. Raster painting 8. Vector shapes 9. Basic geometric transformation 10. Boolean operations on shapes 11. Shading techniques 12. Straight-ahead animation 13. Motion paths 14. Applying geometric transformations 15. Intertwining options 16. Looping and palindrome motion

3D ANIMATION
<ol style="list-style-type: none"> 1. Overview of World Cinema & Animation 2. 3D Production Pipeline 3. Nurbs Curves 4. Modifying and deforming geometry 5. Basic Character design 6. 3D Modeling 7. Creating Texture Maps 8. Lighting Fundamentals 9. Tools to create animation 10. Key frame animation 11. Graph editor 12. Basic of Dynamics 13. Type of rendering

SEMESTER - VI

Specialisation in Data Analytics

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DATA VISUALIZATION & VISUALISATION FRAMEWORKS	HADOOP ADMINISTRATION
<ol style="list-style-type: none"> 1. Classifications of Visualizations 2. Infographics vs Data Visualization 3. Graph Visualizations 4. Geo mapping 5. CMYK 6. Color profiles 7. Device profiles 8. Basic and Interactive Plots 9. D3 – dealing with data 10. Interaction and Transitions Layout 11. Three-Dimensional Tools Built with D3 12. Preparing Working Environment 13. data Plots 	<ol style="list-style-type: none"> 1. Data Storage and Analysis 2. Hadoop versions 3. Environment Variables and Shell Scripts 4. The Hadoop Distributed File system 5. HDFS commands 6. Formatting the Namenode 7. Creating a /tmp Directory 8. Yarn architecture 9. The FIFO Scheduler 10. Yarn Frameworks 11. Setting Up a Hadoop Cluster 12. Balancing HDFS Block Data 13. Dealing with a Failed Disk. 14. Hive 15. HBase

BIG DATA ANALYTICS
<ol style="list-style-type: none"> 1. Types Of Digital Data 2. Cloud And Big Data 3. Mobile Business Intelligence 4. Crowd Sourcing Analytics 5. Graph Databases 6. Sharding And Replication 7. Analyzing Data With Hadoop 8. Hadoop Pipes 9. Hadoop Distributed File System 10. Anatomy Of A Map Reduce 11. YARN 12. Hbase 13. Cassandra, Hive

SEMESTER - VI

Specialisation in Database Systems

COMPUTER GRAPHICS	DATA WAREHOUSING AND DATA MINING
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BUSINESS INTELLIGENCE
<ol style="list-style-type: none"> 1. Data warehousing 1.0, Data warehouse 2.0 2. Enterprise data warehouse platform 3. Building a Data warehouse 4. Dimensional Analysis 5. Data Modelling 6. Data layer Algorithms 7. Layer Integration strategies 8. Semantic framework Lexical processing 9. Data Loading - Storage, and File Formats 10. Regular expressions 11. Installing QlikView 12. Rank analysis 13. Data visualization for Data marts 14. Trend analysis