



**Lesson Plan**

**Name : Mr. Rishi Saxena**

**Department: Computer Science**



## BCA Semester I Computer Fundamentals I 2017-18

Month		Topics Covered	Other Activities
July		Introduction to Computer: Definition, Diagram, Characteristics, Classification of Computers: Analog Computers, Digital Computers, Hybrid Computers, Classifications of computer on the basis of size and speed, different type of computers, Generation of computers.	Assignment
August		Applications of Computer: Desktop publishing, design and manufacturing, military, robotics, planning and management, marketing, communications, education.  Input Devices: keyboard, mouse, track ball	Class Test
September		touch pad, joystick, touch sensitive screens, pen based systems, digitizer, data scanning devices, optical recognition systems, bar code readers, optical mark readers, Optical character reader, optical scanners: drum scanners, hand scanner, flatbed scanner, web camera, game pad, digital camera.	Assignment
October		Output Devices: Hard copy devices: Printer (impact printers) daisy wheel, dot matrix printer, line printer, chain printers, comb printers, (non-impact printers) DeskJet, inkjet, laser printer, thermal transfer printer, barcode printers	Project

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**BCA Semester III Java Programming I 2017-18**

Month		Topics Covered	Other Activities
July		JAVA: Introduction to Object Orientated Programming, Abstraction, Object Oriented Programming Principles, Features of JAVA, Introduction to JAVA byte code	Assignment
August		Program elements; Primitive data types, variables, Input Output in Java, operators: arithmetic, assignment, logical, bit wise, relational, Boolean logical operators, operator precedence.	Class Test
September		Control statements: Java's Selection Statements, if statement, switch statement, Iteration statements, while, do-while, for-each, Nested loop, Jump Statement, using break, continue, return. Arrays, One & Two Dimensional Array	Assignment
October		Object and classes: Objects, constructors, returning and passing objects as parameter, Nested and inner classes. Inheritance: Definition & its Types, Extended class, usage of Super, Overloading and overriding methods, Abstract classes, using final with inheritance.	Project

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**BCA Semester V Mobile Computing 2017-18**

Month		Topics Covered	Other Activities
July		Networking Basics: Introduction to digital communications, Types of network: LAN, WAN, MAN, Types of network terminal: Server, Client, Topology: Bus, Ring, Star, Tree/Snowflake, Mesh, Combined	Assignment
August		Terminology: Amplitude, Frequency, Phase, Bit rate, Baud rate, Bandwidth. Signal types: Analog signals, Digital signals, Modulation: Amplitude, Frequency, Phase, Demodulation, Transmission Media: Guided (Twisted pair cable, Coaxial cable, Fibre Optic Cable), Unguided (Radio waves, Microwaves, Infrared), Transmission Mode: Parallel, Serial	Class Test
September		Mobile Computing: Mobile Computing Vs wireless Networking, Mobile Computing Applications, Characteristics of Mobile computing, Structure of Mobile Computing Application, Mobile Communication: requirements	Assignment
October		Mobility Management: Handoff Techniques, Types of Handoff, Current trends: 3G, 4G and 5G, Global Positioning System (GPS) Mobile IPv6, FTP, VLAN, HTTPS	Project

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**BBA Semester V Management Information System 2017-18**

Month		Topics Covered	Other Activities
July		MIS Information Concepts: Information Definition, Information Vs Data, Information, Knowledge and Business Intelligence, Information/Data Collection Techniques, Classification of Information, Quality of Information, Implications of Information in Business	Assignment
August		Information system, Types of information system, CBIS, Basic components of CBIS.  Concept and Definition of MIS, Objectives of MIS, Characteristics of MIS, MIS and Its Functional Subsystems, Role of Computers in MIS, Organizational Need for MIS, Scope of MIS.  Decision Making: Concepts, Decision Making Process, Decision Tree Analysis, Decision Analysis by Analytical Modeling, MIS and decision making.  Decision Support Systems (DSS): Concept and Philosophy, DSS Models.	Class Test
September		Major Enterprise Applications: Enterprise Resource Planning (ERP) - What is ERP?, Benefits and Challenges of ERP, Trends in ERP, Customer Relationship Management (CRM) - What is CRM?, The Three Phases of CRM, Benefits and Challenges of CRM.  MIS Development: Overview of System Analysis and Design, System Development Life Cycle (SDLC), System Development Models - Waterfall & Prototyping. Guidelines for successful implementation of MIS. Factors Contributing to Success & Failure of MIS.	Assignment
October		MIS Security: Business/IT Security, Ethics, and Society, Computer Crime, Privacy Issues & Other Challenges, Health Issues, Inter-Networked Security Defences & Other Security Measures.	Project

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### MSc Semester III Cloud Computing 2017-18

Month	Topics Covered	Other Activities
July	Introduction to Cloud Computing Introduction, Layers and Types of Clouds, Desired Features of a Cloud, Cloud Infrastructure Management	Assignment
August	Service Models: Infrastructure as a Service(IaaS), Platform as a Service Providers(PaaS), Software as a Service (SaaS), Challenges and Risks. Infrastructure As A Service (IAAS) Virtual Machines, Distributed Management of Virtual Infrastructures	Class Test
September	Scheduling Techniques for Advance Reservation of Capacity, Cluster as a Service, Cloud Storage, Technologies for Data Security in Cloud Computing. Platform As A Service (PAAS) Technologies and Tools for Cloud Computing, Aneka Cloud Platform, Hybrid Cloud Implementation, Comet Cloud, Autonomic Behavior of Comet Cloud.	Assignment
October	An Introduction to the Data Security, Cloud Computing and Data Security Risk, The Cloud, Digital Identity, and Data Security, Legal Issues in Cloud Computing.	Project

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**BCA Semester II Computer Fundamentals II 2017-18**

Month		Topics Covered	Other Activities
December		Introduction to memory, classifications	Assignment
January		random-access memory, volatile memory, non-volatile memory, flash memory, read-only memory, secondary memory, the cache memory, auxiliary storage memory, memory hierarchy, storage device, magnetic tape, magnetic disk, floppy disk, hard disks, CD, DVD. Number system: binary, octal, hexadecimal	Class Test
February		addition, subtraction, multiplications. Computer code: BCD, ASCII, EBCDIC code, logic gates and Boolean algebra representation. Software: System software, application software, utility software	Assignment
March		Computer Viruses: Introduction, history, types of computer viruses, classification of viruses, symptoms of a computer virus, & ways to catch a computer virus. Introduction of Internet, world wide web, how the web works, web standards, website, overview, types of websites, electronic mail, e-mail header, messages and mailboxes	Project

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February		addition, subtraction, multiplications. Computer code: BCD, ASCII, EBCDIC code, logic gates and Boolean algebra representation. Software: System software, application software, utility software	Assignment
March		Computer Viruses: Introduction, history, types of computer viruses, classification of viruses, symptoms of a computer virus, & ways to catch a computer virus. Introduction of Internet, world wide web, how the web works, web standards, website, overview, types of websites, electronic mail, e-mail header, messages and mailboxes	Project

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**BCA Semester IV Java Programming II 2017-18**

Month		Topics Covered	Other Activities
December		PACKAGE AND INTERFACES: Defining package, Concept of classpath	Assignment
January		access modifiers, importing package, Defining and implementing interfaces. STRING HANDLING: String constructors, special string operation, character extraction, searching and comparing string, strings, string Buffer class	Class Test
February		EXCEPTION HANDLING: Exception handling fundamentals, Exception types, try, catch and multiple catch statements. Usage of throw, throws and finally. THREADING: Multithreading, multiprocessing, life cycle of thread, Garbage collection, and deadlock. File handling: input and output stream.	Assignment
March		Applet: applet Fundamentals, applet life cycle, using paint method and drawing polygon	Project

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## BCA Semester VI Mobile Application Development 2017-18

Month		Topics Covered	Other Activities
December		Android Introduction: History of Android, Definition of Android , Need of Android	Assignment
January		Features of Android, Android Applications, Categories of Android applications, API level. Android - Environment Setup: Set-up Java Development Kit (JDK) - JDK Versions, Download JDK, Install JDK and JRE, JDK's "bin" PATH, Set the Environment Variable JAVA_HOME, Verify the JDK Installation, Android IDEs: Android Studio - Install "Android Studio IDE" (For Windows), Installing Android SDK, Setup Emulator (Android Virtual Device AVD), Eclipse IDE.	Class Test
February		Android Application: Create Android Application, Anatomy of Android Application, Folder, File & Description, .java source files , res/drawable, res/layout, res/values, AndroidManifest.xml, The Main Activity File, The Manifest File, The Strings File, The Layout File, Running the Application - Run the Android App on Emulator. Run the Android App on Real Devices  Android - UI Layouts: Linear Layout, Relative Layout, Constraint layout, Layout Attributes, View Identification	Assignment
March		Android - Architecture: Linux kernel, Android Libraries, Android Runtime, Application Framework, Applications.  Android - Activities: Activity life cycle - onCreate(), onStart(), onResume(), onPause(), onStop(), onDestroy(), onRestart(),  Android - Broadcast Receivers: Creating the Broadcast Receiver, Registering Broadcast Receiver, Event Constant & Description.	Project

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**MSc Semester II Programming in VB.NET 2017-18**

Month		Topics Covered	Other Activities
December		Introduction to Visual Basic .NET IDE and its features	Assignment
January		.NET framework, CLR. Language basics: data type, operators, control statements: branching and looping. .NET Controls Forms, text boxes, labels, command button, radio button, option buttons, check boxes, list boxes and combo boxes, introduction to ActiveX controls  Strings and Arrays Working with Arrays, array resizing, System Array, class, manipulation of string, string functions for comparison, concatenation, copy, replace, substring, length.	Class Test
February		Working with Classes, Class properties and methods, attaching a class with a form Inheritance: derived from existing classes, overriding methods from base class	Assignment
March		Exception Handling Types of errors, structured and unstructured exceptions, Tracing Errors: breakpoints, watch, quick Watch, autos, locals, call stack. Database Access ADO.NET and its Components, datasets, data adapters, server explorer, binding controls to database	Project

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