

## Lesson Plan

### Logical Organization of Computer-I (PAPER CODE- BCA-104) BCA 1<sup>st</sup> Sem

Month	Syllabus to be covered
July 2018 (16 <sup>th</sup> to 31 <sup>st</sup> July)	<b>Unit-I:</b> Information Representation: Number Systems (binary, octal, hexadecimal), Binary Arithmetic-Addition, Subtraction, Multiplication, division
August 2018	Fixed-point and Floating point representation of numbers, BCD Codes, Error detecting and correcting codes (hamming code), Character Representation – ASCII, EBCDIC, Unicode. <b>Unit 2:</b> Binary Logic: Boolean Algebra <b>Assignment-1</b>
September 2018	Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions – Venn Diagram, Karnaugh Maps. <b>Unit-3:</b> Digital Logic: Introduction to digital signals, Basic Gates – AND, OR, NOT, Universal Gates and their implementation – NAND, NOR, Other Gates – XOR, XNOR etc. <b>Test based on Unit 1 and Unit 2.</b>
October 2018	NAND, NOR, AND-OR-INVERT and OR-AND-INVERT implementations of digital circuits, Combinational Logic – Characteristics, Design Procedures, analysis procedures, Multilevel NAND and NOR circuits. <b>Unit-4:</b> Combinational Circuits: Half-Adder, Full-Adder, <b>Assignment-2</b>
November 2018	Half-Subtractor, Full-Subtractor, Parallel binary adder/subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters, BCD to Seven-Segment Decoder <b>Test based on Unit 3 and Unit 4</b>

### 16MCS21C1: DISCRETE MATHEMATICS (M.Sc. 1<sup>st</sup> Sem)

Month	Syllabus to be covered
August 2018	<b>Unit-1:</b> Sets: Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Simple Applications. Relations and functions: Properties of Relations, Equivalence Relation, Partial Order Relation, Function: Domain and Range, Onto, Into and One to One Functions, Composite and Inverse Functions. <b>Assignment-1</b>
September 2018	<b>Unit-2:</b> Propositional Logic: Proposition logic, basic logic, Logical Connectives, truth tables, tautologies, contradiction, Logical implication, Logical equivalence, Normal forms, Theory of Inference and deduction. Predicate Calculus: Predicates and quantifiers. Mathematical Induction. <b>Unit-3:</b> Matrices: Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication <b>Test based on Unit 1 and Unit 2.</b>
October 2018	Multiplication of Matrices, Adjoint and Inverse of a matrix. Determinants: Definition, Minors, Cofactors, Properties of Determinants, Applications of determinants in finding area of triangle, Solving a system of linear equations.  <b>Unit-4:</b> Introduction to defining language, Kleene Closure, Arithmetic expressions <b>Assignment-2</b>
November 2018	Chomsky Hierarchy, Regular expressions. Conversion of regular expression to Finite Automata, NFA, DFA, Conversion of NFA to DFA, FA with output: Moore

	machine, Mealy machine. <b>Test based on Unit 3 and Unit 4.</b>
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**BCH-3-06: Basics of Information Technology (B.Com(H) 3<sup>rd</sup> Sem)**

<b>Month</b>	<b>Syllabus to be covered</b>
July 2018 (16 <sup>th</sup> to 31 <sup>st</sup> July)	<b>Unit-1</b> Essentials of Computers: Concept of data, information and data processing, Levels or type of information, Uses of information, Business data Processing Cycle, Methods of data processing, Application of Electronic data processing. Memory and Mass Storage Devices: Introduction of Memory System
August 2018	Types of Memory-Primary and Secondary Memory, RAM and ROM, Types of Secondary Storage Devices; Software Concepts: Types of Software and their role, System Languages and Translators, Functions and Types an Operating System. <b>Unit-2:</b> Data Communications: Basic elements of a Communication System, Forms of Data Transmission, Data transmission speed, Modes of Data Transmission:Analog and Digital data transmissions, Data Transmission Media; Wire Cables, Microwave, Fiber-optics, Communication Satellites. <b>Assignment-1</b>
September 2018	Emerging Trends in IT: Electronic Commerce(E-Commerce), Types of E-Commerce, Advantages and Disadvantages of E-commerce, Application of E-commerce, process in ecommerce, Types of an Electronic Payment System, Security issues in E-commerce, Security Schemes; Electronic data Interchange (EDI); Mobile communication, Bluetooth Communication, Infrared communication, Smart Card. <b>Unit-3:</b> Computer Networks: Introduction to Computer Network, Types of Network; Local Area Network, Wide Area Network <b>Test based on Unit 1 and Unit 2.</b>
October 2018	Types of Public and Private Network, Network Topology; Internet and its Application, History of Internet, Benefits of Internet, ISP, Internet Accounts, Internet Addressing, Information Technology: Impact of IT on Business environment; Applications of IT. Multimedia: Concept of Multimedia, Multimedia Components, Multimedia Applications. <b>Unit-4:</b> Presentation with Power- Point: Features of Power-point, Creating presentation the easy way, Working with different views <b>Assignment-2</b>
November 2018	working with graphics in Power Point, Sound effects and Animations effects, Printing in Power-point. Introduction to Accounting Packages-Tally: Features of Tally, Preparation of Vouchers, Salary statement, Maintaining of Inventory records, Maintenance of Accounting Books and final Accounts, Generating and Printing reports. <b>Test based on Unit 3 and Unit 4.</b>