

P.T.V.A.'s
M.L.Dahanukar College of Commerce

Teaching Plan: 2017 – 18
Department:Information Technology

Class: F.Y.B.Sc.(I.T.) – Semester I

Subject: Imperative Programming

Name of the Faculty: Navneet Kaur Nagpal

Month	Topics to be Covered	Number of Lectures
July	Types of programming languages, program logic, pseudo code statements, flowchart, sentinel values, program development cycle, identifiers, variables, keywords, constants, data types, expressions, structure of a program, compilation and execution of a program, error handling	12
August	Arithmetic operators, unary operators, binary operators, relational operators, logical operators, assignment , conditional operator, input statement, output statement, library functions, math functions, interactive programming, if, if-else, while, do while, for, nested loops, switch, infinite loop	20
September	Function(definition, prototype, call), user defined functions, call by value, call by reference, parameters and arguments, nesting of member functions, recursive functions, local variables, global variables, statics variables, extern variables, auto variables, register variables, arrays, pre-processor	16
October	Pointers, declaration, use of pointer data type, functions and pointer, arrays and pointer, structures , union	12

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M.L.Dhanukar College of Commerce

Teaching Plan: 2017 - 18

Department: Information Technology

Semester: I

Class: F.Y.BScIT

Subject: Digital Electronics

Name of the Faculty: Mrs. Snehal Borade

Month	Topics to be Covered	Internal Assessment	Number of Lectures
July	<p>UNIT I</p> <p>Number System</p> <ul style="list-style-type: none">• Analog System, digital system• binary number system, octal number system, hexadecimal number system conversion from one number system to another• weighted codes binary coded decimal non-weighted codes Excess – 3 code, Gray code, Alphanumeric codes – ASCII Code, EBCDIC, ISCII Code, Hollerith Code, Morse Code, Teletypewriter (TTY), Error detection and correction, Code conversion. <p>Binary Arithmetic</p> <ul style="list-style-type: none">• Binary addition• Binary subtraction• Negative number representation• Subtraction using 1's complement and 2's complement• Binary multiplication and division• Arithmetic in octal number system, Arithmetic in hexadecimal number system, BCD and Excess – 3 arithmetic		20

	<p>UNIT II Boolean Algebra and Logic Gates</p> <ul style="list-style-type: none"> • Introduction, Logic (AND OR NOT) • Boolean theorems, Boolean Laws, De Morgan's Theorem 		
August	<p>UNIT II Boolean Algebra and Logic Gates</p> <ul style="list-style-type: none"> • Reduction of Logic expression using Boolean Algebra • Deriving Boolean expression from given circuit • exclusive OR and Exclusive NOR gates Universal Logic gates, Implementation of other gates using universal gates • Input bubbled logic <p>Minterm, Maxterm and Karnaugh Maps:</p> <ul style="list-style-type: none"> • Introduction, minterms and sum of minterm form, maxterm and Product of maxterm form. • Reduction technique using Karnaugh maps – 2/3/4/5/6 variable K-maps. • Grouping of variables in K-maps, K-maps for product of sum form, minimize Boolean expression using K-map and obtain K-map from Boolean expression. • Quine Mc- Cluskey Method. <p>UNIT III Combinational Logic Circuits:</p> <ul style="list-style-type: none"> • Introduction, Multi-input, multi-output Combinational circuits • Code converters design and implementations 	CLASS TEST	16
September	<p>UNIT III Arithmetic Circuits:</p> <ul style="list-style-type: none"> • Introduction, Adder, BCD Adder, Excess – 3 Adder • Binary Subtractors, BCD Subtractor, Multiplier, Comparator. 		16

	<p>UNIT IV Multiplexer, Demultiplexer, ALU, Encoder and Decoder:</p> <ul style="list-style-type: none"> • Introduction, Multiplexer, Demultiplexer, Decoder, ALU, Encoders. 		
October	<p>Sequential Circuits: Flip-Flop:</p> <ul style="list-style-type: none"> • Introduction, Terminologies used, S-R flip-flop, D flip-flop, JK flip-flop, Race-around condition, Master – slave JK flip-flop, T flip-flop, • Application of flip-flop <p>UNIT IV Counters:</p> <ul style="list-style-type: none"> • Introduction, Asynchronous counter, Terms related to counters, IC 7493 (4-bit binary counter) • Synchronous counter, Type T Design, Type JK Design • Presettable counter, IC 7490, IC 7492, Synchronous counter ICs <p>Shift Register:</p> <ul style="list-style-type: none"> • Introduction, parallel and shift registers, serial shifting, serial-in serial-out, serial-in parallel-out, parallel-in parallel-out • Ring counter, Johnson counter, • Applications of shift registers, Pseudo-random binary sequence generator, IC7495, Seven Segment displays, analysis of shift-register 		24

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M.L.Dahanukar College of Commerce

Teaching Plan: 2017 - 18

Department: I.T.

Class: F.Y.B.Sc.(I.T.)

Semester: I

Subject: Operating Systems

Name of the Faculty: Amit Bane

Month	Topics to be Covered	Internal Assessment	Number of Lectures
June	<ol style="list-style-type: none">1. What is an operating system? History of operating system, computer hardware, different operating systems, operating system concepts, system calls, operating system structure2. Processes, threads, interprocess communication, scheduling, IPC problems.		12
July	<ol style="list-style-type: none">1. No memory abstraction, memory abstraction: address spaces, virtual memory, page replacement algorithms, design issues for paging systems, implementation issues, segmentation.2. Files, directories, file system implementation, file-system management and optimization, MS-DOS file system, UNIX V7 file system, CD ROM file system.		12
August	<ol style="list-style-type: none">1. Principles of I/O hardware, Principles of I/O software, I/O software layers, disks, clocks, user interfaces: keyboard, mouse, monitor, thin clients, power management,2. Resources, introduction to deadlocks, the ostrich algorithm, deadlock detection and recovery, deadlock avoidance, deadlock prevention, issues.		12
September	<ol style="list-style-type: none">1. History, requirements for virtualization, type 1 and 2	Internal test (20)	12

	<p>hypervisors, techniques for efficient virtualization, hypervisor microkernels, memory virtualization, I/O virtualization, Virtual appliances, virtual machines on multicore CPUs, Clouds.</p> <p>2. Multiprocessors, multicomputers, distributed systems.</p>		
October	<p>1. History of Unix and Linux, Linux Overview, Processes in Linux, Memory management in Linux, I/O in Linux, Linux file system, security in Linux. Android</p> <p>2. History of windows through Windows 10, programming windows, system structure, processes and threads in windows, memory management, caching in windows, I/O in windows, Windows NT file system, Windows power management, Security in windows.</p>		10

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Teaching Plan: 2017 - 18

Department: I.T.

Class: F.Y.B.Sc.(I.T.)

Semester:I

Subject: Discrete Mathematics

Name of the Faculty: T.K. Khatijatul Kubra

Month	Topics to be Covered	Internal Assessment	Number of Lectures
June	Introduction: Variables, The Language of Sets, The Language of Relations and Function Set Theory: Definitions and the Element Method of Proof, Properties of Sets, Disproofs, Algebraic Proofs, Boolean Algebras, Russell's Paradox and the Halting Problem. The Logic of Compound Statements: Logical Form and Logical Equivalence, Conditional Statements, Valid and Invalid Arguments		12 lectures
July	Quantified Statements: Predicates and Quantified Statements, Statements with Multiple Quantifiers, Arguments with Quantified Statements Elementary Number Theory and Methods of Proof: Introduction to Direct Proofs, Rational Numbers, Divisibility, Division into Cases and the Quotient-Remainder Theorem, Floor and Ceiling, Indirect Argument: Contradiction and Contraposition, Two Classical Theorems, Applications in algorithms		15 lectures
August	Sequences, Mathematical Induction, and Recursion: Sequences, Mathematical Induction, Strong Mathematical Induction and the WellOrdering Principle for the Integers, Correctness of algorithms, defining sequences recursively, solving recurrence relations by iteration, Second order linear homogenous recurrence relations with constant coefficients. general recursive definitions and structural induction. Functions: Functions Defined on General Sets, One-to-One and Onto,		20 lectures

	Inverse Functions, Composition of Functions, Cardinality with Applications to Computability		
September	Relations: Relations on Sets, Reflexivity, Symmetry, and Transitivity, Equivalence Relations, Partial Order Relations Graphs and Trees: Definitions and Basic Properties, Trails, Paths, and Circuits, Matrix Representations of Graphs, Isomorphism's of Graphs, Trees, Rooted Trees, Isomorphism's of Graphs, Spanning trees and shortest paths.		15 lectures
October	Counting and Probability: Introduction, Possibility Trees and the Multiplication Rule, Possibility Trees and the Multiplication Rule, Counting Elements of Disjoint Sets: The Addition Rule, The Pigeonhole Principle, Counting Subsets of a Set: Combinations, rCombinations with Repetition Allowed, Probability Axioms and Expected Value, Conditional Probability, Bayes' Formula, and Independent Events.		20 lectures

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Teaching Plan: 2017 - 18

Department: Information Technology

Semester:I

Class:FYBScIT

Subject: Communication Skill

Name of the Faculty:Manasi Mule

Month	Topics to be Covered	Internal Assessment	Number of Lectures
July	The Seven C's of Communication, Introduction to Communication, Cross-Cultural Communication, Ethics in Business communication, Nature and Scope of communication, Communication across Functional areas, Non-Verbal communication		20
August	Listening, Interviews, Technology enabled communication, Reports, business writing, corporate communication, Group discussion, Resume Building		15
September	Presentations, proposals, team presentations, persuasive strategy in communication, Business communication aids, Team Briefing, Career building, Public speaking.	Class Test	15
October	Presentation skills, conversation, speaking skills		10

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