

M.L. Dahanukar College of Commerce

Teaching Plan: 2020 - 21

Department: I.T.

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

Semester: I

Subject: Imperative Programming

Name of the Faculty: Srushty Padte

Month	Topics to be Covered	Internal Assessment	Number of Lectures
September	Unit1- Introduction, History, Features and application, simple program logic, sdlc , flowchart and psedocode, introduction to C. Structure of program, compilation and execution, Identifiers, keywords, data types, constants , variables, arrays ,expressions. Unit 2- Operator and expressions, data input and output. Unit 3- Introduction		16
October	Unit 3- Decision making, conditions, logical connectives, if, if else, nested if, else if ladder, while loop, do while, for loop. Function definition, accessing a function, passing argument, function prototype , recursion, standard library of c, call by value and call by reference. Unit 4- Program structure, storage class, automatic variables, static variables, multiple programs.		21
November	Unit 4- pre-processor directives, arrays definition , passing parameters to arrays, multidimensional arrays, arrays and strings. Unit 5- Pointers ,declaration, operator, pointer type, assignment, pointer initialization, pointer arithmetic, pointer and functions, pointer arrays.		18
December	Unit 5- structure and unions		5

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M.L.Dhanukar College of Commerce

Teaching Plan: 2020 - 21

Department: I.T

Class: F.Y.BSc(I.T)

Semester: I

Subject: Digital Electronics

Name of the Faculty: Ms.Shruti Save

Month	Topics to be Covered	Internal Assessment	Number of Lectures
September	UNIT I Number System <ul style="list-style-type: none">Analog System, digital systembinary number system, octal number system, hexadecimal number system conversion from one number system to anotherweighted codes binary coded decimal non-weighted codes Excess – 3 code, Gray code, Alphanumeric codes – ASCII Code, EBCDIC, Hollerith Code, Morse Code, Teletypewriter (TTY), Error detection and correction, Code conversion. Binary Arithmetic <ul style="list-style-type: none">Binary additionBinary subtractionNegative number representationSubtraction using 1's complement and 2's complementBinary multiplication and divisionArithmetic in octal number system, Arithmetic in hexadecimal number system, BCD and Excess – 3 arithmetic UNIT II Boolean Algebra and Logic Gates <ul style="list-style-type: none">Introduction, Logic (AND OR NOT)<ul style="list-style-type: none">Boolean theorems, Boolean Laws, De Morgan's Theorem		20
October	UNIT II Boolean Algebra and Logic Gates <ul style="list-style-type: none">Reduction of Logic expression using Boolean Algebra		24

	<ul style="list-style-type: none"> • 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</p> <p>Combinational Logic Circuits:</p> <ul style="list-style-type: none"> • Introduction, Multi-input, multi-output Combinational circuits • Code converters design and implementations <p>Arithmetic Circuits:</p> <ul style="list-style-type: none"> • Introduction, Adder, BCD Adder, Excess – 3 Adder • Binary Subtractors, BCD Subtractor, Multiplier, Comparator. 		
November	<p>UNIT IV</p> <p>Multiplexer, Demultiplexer, ALU, Encoder and Decoder:</p> <ul style="list-style-type: none"> • Introduction, Multiplexer, Demultiplexer, Decoder, ALU, Encoders. <p>Sequential Circuits: Flip-Flop:</p> <ul style="list-style-type: none"> • Introduction, Terminologies used, S-R flip-flop, D flip-fop, JK flip-flop, Race-around condition, Master – slave JK flip-flop, T flip-flop, • Application of flip-flop <p>UNIT IV</p> <p>Counters:</p>		18

	<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 		
December	<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 		06

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M.L. Dahanukar College of Commerce

Teaching Plan: 2020 - 21

Department: I.T.

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

Semester:1

Subject: Digital Electronics

Name of the Faculty: Ajila Paul

Month	Topics to be Covered	Internal Assessment	Number of Lectures
September	<p>Unit -1 Number System: Analog System, digital system, number system, conversion from one number system to another, floating point numbers, weighted Codes, binary coded decimal, non-weighted codes, Alphanumeric codes, Error detection and correction, Universal Product Code, Code conversion.</p> <p>Binary Arithmetic: 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.</p> <p>Unit-2 Boolean Algebra and Logic Gates: Introduction, Logic (AND OR NOT), Boolean theorems, Boolean Laws, De Morgan's Theorem, Perfect Induction, 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, Assertion level.</p> <p>Minterm, Maxterm and Karnaugh Maps: 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 express expression using K-map and obtain K-map from Boolean expression.</p>		22

<p>October</p>	<p>Unit – 2 Quine Mc Cluskey Method.</p> <p>Unit-3 Combinational Logic Circuits: Introduction, Multi-input, multi-output Combinational circuits, Code converters design and implementations Arithmetic Circuits: Introduction, Adder, BCD Adder, Excess – 3 Adder, Binary Subtractors, BCD Subtractor, Multiplier, Comparator.</p> <p>Unit-4 Multiplexer, Demultiplexer, ALU, Encoder and Decoder: Introduction, Multiplexer, Demultiplexer, Decoder, ALU, Encoders. Sequential Circuits: Flip-Flop: Introduction, Terminologies used, S-R flip-flop, D flip-fop, JK flip-flop, Race-around condition, Master – slave JK flip-flop, T flip-flop, conversion from one type of flip-flop to another, Application of flip-flops.</p>		<p>26</p>
<p>November</p>	<p>Unit - 5 Counters: Introduction, Asynchronous counter, Terms related to counters, IC 7493 (4-bit binary counter), Synchronous counter, Bushing, Type T Design, Type JK Design, Presettable counter, IC 7490, IC 7492, Synchronous counter ICs, Analysis of counter circuits. Shift Register: Introduction, parallel and shift registers, serial shifting, serial–in serial–out, serial–in parallel–out, parallel–in parallel–out.</p>		<p>8</p>
<p>December</p>	<p>Unit - 5 Ring counter, Johnson counter, Applications of shift registers, Pseudo-random binary sequence generator, IC7495, Seven Segment displays, analysis of shift counters.</p>		<p>4</p>

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Teaching Plan: 2020 - 21

Department: I.T.

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

Semester: I

Subject: Operating System DIV: A and B

Name of the Faculty: Snehal Borade

Month	Topics to be Covered	Internal Assessment	Number of Lectures
September	Unit 1 Introduction: What is an operating system? History of operating system, computer hardware, different operating systems, operating system concepts, system calls, operating system structure. Processes and Threads: Processes, threads, interprocess communication, scheduling, IPC problems.		10
October	Unit 2 Memory Management: No memory abstraction, memory abstraction: address spaces, virtual memory, page replacement algorithms, design issues for paging systems, implementation issues, and segmentation. File Systems: Files, directories, file system implementation, file-system management and optimization, MS-DOS file system, UNIX V7 file system, CD ROM file system.		14
November	Unit 3 Input-Output: 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, Deadlocks: Resources, introduction to deadlocks, the ostrich algorithm, deadlock detection and recovery, deadlock avoidance, deadlock prevention, issues.		18

	<p>Unit 4</p> <p>Virtualization and Cloud: History, requirements for virtualization, type 1 and 2 hypervisors, techniques for efficient virtualization, hypervisor microkernels, memory virtualization, I/O virtualization, Virtual appliances, virtual machines on multicore CPUs, Clouds.</p>		
December	<p>Unit 4</p> <p>Multiple Processor Systems Multiprocessors, multicomputers, distributed systems.</p> <p>Unit 5</p> <p>Case Study on LINUX and ANDROID: 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 Case Study on Windows: 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>		18

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Department: I.T.

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

Semester: I

Subject: Discrete Mathematics

Name of the Faculty: Ganesh Bhagwat

Month	Topics to be Covered	Internal Assessment	Number of Lectures
September	UNIT I Introduction: Set Theory: The Logic of Compound Statements		20
October	UNIT II Quantified Statements: Elementary Number Theory and Method of proof: UNIT III Sequences, Mathematical Induction and Recursion:		19
November	UNIT III cont... Sequences, Mathematical Induction and Recursion: Functions: UNIT IV Relations:		13
December	UNIT IV cont... Graph and Trees: UNIT V Counting and Probability		10

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M.L.Dahanukar College of Commerce

Teaching Plan: 2020 - 21

Department: BSc IT Semester: I

Class: **FYBScIT**

Subject: Communication Skill

Name of the Faculty: Manasi Mule

Month	Topics to be Covered	Internal Assessment	Number of Lectures
September	The Seven C's of Communication, Introduction to Communication, Cross-Cultural Communication, Technology Enabled Communication, Business Writing Non- Verbal Communication ,		28
October	Resume, Graphics in presentation, Listening, Reports and Proposals ,Presentation, Mind map, concept maps, Ethics in communication, Nature and scope of presentation, Instructions		20 (Approx)
November	Team presentations, persuasive strategy in communication, Business communication aids, Team Briefing, Career building, Public speaking.		20 (Approx)
December	Communication across functional areas, Presentation skills, Conversation, Speaking skills, Interviews		10 (Approx)

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