GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	B.Sc.(IT)		Branch/Spec.	-	
Semester	I		Version	1.0.0.0	
Effective from Academic Year	2014-15		Effective for the batch Admitted in	June 2015	
Subject code	U21A1ADP	Subject Name	Algorithm Development and Introduction to Programming		

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	1	2	-	5	Theory	40	60	100
Hours	2	1	4	-	7	Practical	20	30	50

Pre-requisites:

Basic Knowledge of computer, arithmetic calculation and MS-DOS

Learning Outcome:

Will be able to learn programming language, Concepts of Basic Programming languages like loop, array, structure and will be able to learn other advance programming languages like .net, Java, C++, Android etc.

Theory syllabus

Unit	Content	Hrs
1	**Concepts of C: (9)** **Overview of C (5)** Brief history of C, Importance of C, Features of 'C' language(1), Basic Structure of C Programs(1), Programming Style, Steps to execute 'C' Program(1), Understanding the terminologies: Source Program, Object Program, Executable Program, Linker, Loader(1), Debug, Compilation process, Interpreter(1),. **Constants, Variables and Data Types: (4)** Character set, C tokens, keywords and identifiers (1), constants, variables (1), data types (1), declaration of variables, assigning value to variable, defining symbolic constants (1).	18
2	**Operators and Managing I/O (9)** Operators – arithmetic, relational (1), logical, assignment, increment-decrement (1), conditional, bit-wise and special(1),Arithmetic expressions, evaluation of expressions, precedence of arithmetic operators(1), type conversions in expressions(1), operator precedence and associativity, mathematical functions.(1), Reading and writing a character Formatted input-output (3)	09
3	**Decision Making branching and Looping: (10)** **Decision Making Branching:** Decision making with IF statement, simple IF statement, the IF-ELSE statement (1), nesting of IF … ELSE statements, the ELSE IF ladder (1), Switch statement (1), turnery (? :) operator(1), Go-To statement (1) **Looping :** Looping statements – WHILE (1), DO (1) and FOR. (2) Nesting and Jumps in loops, Break & Continue (1)	10
4	**Array & Function (11)** **Arrays: (4)** Introduction to Array, Concept of Dimensions in arrays, (1) Initialization values in an array, Overflow and Underflow, (2) Concepts in Multidimensional Array. (1)	11

	Functions: (7) Need for user-defined functions, the form of c function, return values and their types, (1)calling a function, category of functions, (1) no arguments and no return values, arguments with return values, (1) handling of non-integer functions, nesting of functions, recursion, functions with arrays,(2) the scope, visibility and lifetime of variables in functions.(2)	
5	**Structure: (06)** Structure definition, Assigning values into members,(1) structure initialization, comparison of structures, (1) arrays of structures, (2) arrays within structures,(2)	06
Practical content		
List of programs specified by the subject teacher based on above mention topics.		
Text Books		
1	Programming in ANSI C by Balaguruswami E. - TMH Publications	
Reference Books		
1	"Programming in C" by Pradip dey and Manash Ghosh	
2	Let us 'C' by Yashwant Kanetkar –BPB Publications	
3	Mastering Turbo C by Stan, Kelly,Bootle -BPB Publications	
4	How to Solve it by Computer, R.G.Dromey-PHI Publication	
Note for Examiner		
	Q-1Must be common from any topics from syllabus. Q-2 And onwards must be from specific topics and internal choice or option can be given	
Paper Structure		
	Q-1 (Attempt any Six Out of Eight: each question must be 5 marks) --- 30 Questions must be covered all possible section. Q-2 (Must be From topics: Concepts of C: (6 marks)) Q-3 (Must be From topics: Operators and Managing I/O (6 marks)) Q-4 (Must be From topics: Decision making branching and Looping: (8 marks)) Q-5 (Must be From topics: Array and Function: (6 marks)) Q-6 (Must be From topics: Structure: (4 marks))	

Note:

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FACULTY OF COMPUTER APPLICATION

Programme	B.Sc.(IT)			Branch/Spec.	-
Semester	I			Version	1.0.0.0
Effective from Academic Year		2014-15		Effective for the batch Admitted in	June 2015
Subject code	U21A2DEL	Subject Name		Introduction to Digital Electronics	

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	-	2	-	5	Theory	40	60	100
Hours	3	-	4	-	7	Practical	20	30	50

Pre-requisites:

We learn this subject before knowledge of Basic Electronics and Number Systems.

Learning Outcome:

Aware the students with the hardware equipment and internal architecture of the computer.

Theory syllabus

Unit	Content	Hrs
1	**Data Representation and Number System: (15)** Number Systems: Introduction to Decimal, Binary, Octal, Hexadecimal Number Systems [2], Conversation of number from one number system to another number System [4], Binary Arithmetic: Addition, Subtraction (Simple method, using 1's And 2's Complement method) [3], Multiplication, Division (Simple method) [3]. Representation & Error detection and correction codes [03]	15
2	**Logic Gates and Boolean algebra: (15)** **Logic Gates: 04** Introduction of Digital Electronics [1], Inverter, OR Gate, AND Gate, NOR Gate, NAND Gate, [1] Demorgan's Theorems, EX-OR Gate, EX-NOR Gate [2] **Boolean algebra: 11** Boolean Relation [1] , SOP Method and POS Method [2], Algebraic Simplification.(Only for Examples, not for theory)[1], Universal Building blocks (Only for Logic conversion, not for theory) [3], Implementation of Digital circuits using Universal gates, Pair, Quad, Octet [2], K-MAP Simplifications	15
3	**Data Processing Circuit and ALU:(14)** **Data Processing Circuits: 08** Combinational circuits and sequential circuits [1], Multiplexer (4 to 1, 8 to 1,16 to 1), Demultiplexer (1 to 4, 1 to 8, 1 to 16) [3], Decoder (1 of 4, 1 of 8,1 of 16) Seven Segment Display, Decoder (1 of 4, 1 of 8, 1 of 10, BCD to Decimal), [2],Encoder (Decimal to BCD, Hexadecimal to BCD)[2] **Arithmetic Logic Unit: 06** Half Adder, Full Adder[2],Half Subtractor, Binary Adder[2], Signed binary number, 2's complement Adder – Subtractor.[2]	14
4	**Flip-Flop,Memory,Regiter,Counter: (11)** **Flip Flop, Memory : (6)** NOR Latch, NAND Latch, R S Flip Flop[2], ROM, PROPM (Programmable ROM)[1], EPROM (Erasable Programmable ROM),EEPROM (Electrically Erasable programmable ROM), RAM, Dynamic RAM, Static RAM, Hexadecimal Addresses [3]	11

	Registers and counters: (5) Registers: 05 Buffer Register, Shift left register[2],Shift right register, Asynchronous and Synchronous Counter(Ring Counter, Ripple Counter) [3]	
Practical content		
List of programs specified by the subject teacher based on above mention topics.		
Text Books		
1	Digital Electronics by R.P.Ajwalia –Atul Prakashan	
Reference Books		
1	Digital Computer Electronics by Malvino & Brown, Third Edition – TMH, Publications	
2	Fundamentals of computer by V.Rajaraman-PHI Publications.	
3	Digital Principles and applications by Malvino & Leach – TMH Publication.	
Note for Examiner		
	Q-1Must be common from any topics from syllabus. Q-2 And onwards must be from specific topics and internal choice or option can be given	
Paper Structure		
	Q-1 (Attempt any Six Out of Eight: each question must be 5 marks) --- 30 Questions must be covered all possible section. Q-2 (Must be From topics:: Data Representation and Number System: (8 marks) Q-3 (Must be From topics: Logic Gates and Boolean algebra : (8 marks) Q-4 (Must be From topics: Data Processing Circuit and ALU :(6 marks) Q-5 (Must be From topics: Flip-Flop and Memory : (4 marks) Q-6 (Must be From topics: Registers and counters :(4 marks)	

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Semester	I				Version	1.0.0.0		
Effective from Academic Year		2014-15			Effective for the batch Admitted in			June 2015
Subject code	U21A3DM	Subject Name			Introduction to data analysis and data management			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	1	2	-	5	Theory	40	60	100
Hours	2	1	4	-	7	Practical	20	30	50

Pre-requisites:

Basic knowledge of computer system

Learning Outcome:

Will able to make effective presentation, document editing, spreadsheets, database that will be useful for project documentation, arithmetic calculation, project report

Theory syllabus

Unit	Content	Hrs
1	**Open Office – Writer (8)** • Selecting the application package • Working with Documents- Formatting Documents - Setting Page style- Creating Tables- Drawing Tools - Printing Documents - Operating with MS Word documents • Mail Merge • Watermark, Drop cap • Macro	08
2	**Open Office-Calc (12)** • Introduction to Spreadsheets • Overview of a Worksheet • Creating Worksheet & Workbooks • Organizing files, Managing files & workbooks • Functions & Formulas • Working with Multiple sheets • Creating Charts & Printing Charts **Open Office-Math (5)** • Introduction-Formula Editor Math • Menus •Toolbars	12
3	**Open Office -Base (8)** • Introduction- Database Concepts • Advantages of OPEN OFFICE -BASE • Overview of Database • Creating a New Database • Creating Tables	08
4	**Open Office -Impress (7)** • Introduction – Creating Presentation • Advantages of OPEN OFFICE -IMPRESS	07

	• Saving Presentation Files, Master Templates & Re-usability, Slide Transition.	
Practical content		
List of programs specified by the subject teacher based on above mention topics.		
Text Books		
1	Open Office Basic: An Introduction Paperback by Prof James Steinberg.	
Reference Books		
1	PC Software for windows made simple by Taxali R.K.-Tata McGraw-Hill Publishing Co. LTD.	
2.	Taming Apache OpenOffice: Getting Started By Jean Hollis Weber.	
3.	ACCESS 2000 ,BPB Publications, Celeste Robinson .	
4.	10 Minute guide to MS-ACCESS 2000 ,PHI publication, Faithe wempen	
Note for Examiner		
	Q-1Must be common from any topics from syllabus. Q-2 And onwards must be from specific topics and internal choice or option can be given	
Paper Structure		
	Q-1 (Attempt any Five Out of Seven: each question must be 6 marks) --- 30 marks Question must be covered all possible topics. Q-2 (Must be from topics: Open Office – Writer (9 marks)) Q-3 (Must be from topics: Open Office-Calc & Open Office-Math (9 marks)) Q-4 (Must be from topics: Open Office -Base (6 marks)) Q-5 (Must be from topics: Open Office -Impress (6 marks))	

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Programme	B.Sc.(IT)				Branch/Spec.	-		
Semester	I				Version	1.0.0.0		
Effective from Academic Year		2014-15			Effective for the batch Admitted in			June 2015
Subject code	U21A4ITS		Subject Name		Information Technology And System Maintenance			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)	Total		CE	SEE	Total
	L	TU	P	TW				
Credit	3	-	-	-	3	Theory	40	60	100
Hours	3	-	-	-	3	Practical			

Pre-requisites:

Require the idea of computer

Learning Outcome:

Awareness regarding internal structure and storage of computer.

Theory syllabus

Unit	Content	Hrs
1	**Introduction to Computer, Information Technology, Hardware and processor (12)** • History of Computer • Definition of computer • Block Diagram of computer • Characteristics of computer • Generation of computer:Digital computer, mini, micro, mainframe, super Hybrid computer • Data and Information • Features of Information • System Hardware • Processor Architecture • Computer Arithmetic • Instruction Set Architecture	12
2	**Introduction to Language, Processor and software (12)** • Types of Languages: Low level v/s High level languages, • Introduction of Machine Language, • Introduction of Assembly Language • Language Processor: Compilers, Interpreter, Assemblers • Difference between Compiler-Assembler-Interpreter • Types of Software: System Software, Application Software	12
3	**Peripheral Device(8)** • FDD, Types of FDD • Hard disk drive • Types of HDD • Tape Drives • CD-DVD Drives • USB • Cache memory • Pen Drive • Port Introduction: USB, Serial, Parallel and PS2	08

	• Input Devices: Key Board, Mouse , Touch screen, Scanner, OMR,MICR,OCR • Output Devices: VDU, Printer • Communication Devices: MODEM, NIC	
4	**System security and Management(8)** • Backup and Restore • Defragment • Disk Management • Installation of OS and Applications • Driver Installation • Booting system • Securing system from virus or unauthorized	08
Practical content		
Text Books		
1	Information Technology and Concepts, 2nd Edition By. Dr. Madhulika Jain, BPB publication	
Reference Books		
1	PC Hardware in a Nutshell,2ndEditionByBarbara FritchmanThompson,Robert Bruce Thompson- O'Reilly Publisher	
2	Fundametal Of computer Organization By Albert Zomaya	
3	Fundamentals of Computer Organization and Architecture By Mostafa AB-EL-BARR and Hesham EL-REWNI	
Note for Examiner		
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Paper Structure		
	Q-1 (Attempt any Five Out of Seven: each question must be 6 marks) --- 30 marks Question must be covered all possible topics. Q-2 (Must be From topics 1 and 2 (8+8 marks) (Attempt any Four Out of Six: each question must be 4 marks)) Q-3 (Must be From topics 3 : (8 marks)) Q-4 (Must be From topics4 : (6 marks))	

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Semester	I				Version	1.0.0.0		
Effective from Academic Year		2014-15			Effective for the batch Admitted in			June 2015
Subject code	U21B5CS1		Subject Name		Communication Skill-I			
Teaching scheme					Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)	Total		CE	SEE	Total
	L	TU	P	TW				
Credit	4	-	-	-	4	Theory	40	60	100
Hours	4	-	-	-	4	Practical			

Pre-requisites:

Basic knowledge of English Grammar.

Learning Outcome:

Main objective of this subject is to improve the knowledge and speaking skill in English.

Theory syllabus

Internal Assessment (40)		External Examination (60)	
Theory – I	LSRW (Theory-II+ Viva)	Theoyr – I	LSRW (Theory-II+viva)
40/2	40/2	60/2	60/2

Unit	Content	Hrs
1	Introduction to Communication skills : -Process of communication and its application -Types of communication -Activities on Verbal and non -verbal Communication -Activities on Formal & Informal Communication -Activities on Upward. downward and horizontal Communication -Barriers in communication -Signal language and symbol language -The relative value of words, voice and expressions in communication -Positive communication -Proactive communication -Situations specific communication -Telephonic communication -LSRW skills and its relevance in professional life	09
2	Parts of speech-Noun; adjective; verb and adverb Sentence formation -Subject-verb agreement -Auxiliary verb; Regular and Irregular verb -Tense chart-Noun and Pronoun -Positive; Negative; Interrogative and Interrogative negative sentences -Usage of tenses	09

3	Active and passive voice Direct speech and Indirect speech Listening Skills: -Role of listening in acquisition of English Language -Types of listening -Exercises on active, passive and selective listening -Listening skills-audio/Video sessions on Indian accent - Listening skills-audio/Video sessions on British/American and various other types of accent	15
4	**Presentation Skills:** -The art of presenting one's ideas effectively -Planning, Preparation and Performance -How to give a formal presentation individually/in a group (Do's and Don'ts) and mock presentations -How to give a seminar presentation individually/in a group (Do's and Don'ts) and mock presentations Assessments and evaluation	15
Practical content		
PRACTICE FOR LISTENING, SPEAKING, READING AND WRITING MODULE		
Text Books		
1		
Reference Books		
1	Materials provided by Faculty Member	
2	Technical Communication , By Meenakshi Raman, Oxford Publication	
Note for Examiner		
	Q-1Must be common from any topics from syllabus. Q-2 And onwards must be from specific topics and internal choice or option can be given	
Paper Structure		
	Q-1 (Attempt any Six Out of Eight: each question must be 5 marks) --- 30 Questions must be covered all possible section. Q-2 (Must be From topics: Introduction to Communication skills: (8 marks)) Q-3 (Must be From topics: Parts of speech-Noun; adjective; verb and adverb & Sentence formation (7 marks)) Q-4 (Must be From topics: Active and passive voice, Direct speech and Indirect speech and Listening Skills: (8 marks)) Q-5 (Must be From topics: Presentation Skills, Assessments and evaluation: (7 marks))	

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