

GOVERNMENT POLYTECHNIC, KOLHAPUR – 416004.

(An Autonomous Institute of Govt. Of Maharashtra)

EVEN TERM ENDE EXAM JUNE/JULY-2022

EXAM SEAT NO.

LEVEL :- **THIRD**

PROGRAM : **INFORMATION TECHNOLOGY**

COURSE CODE :- **ITG310/ITF310**

COURSE NAME **DATA STRUCTURE**

MAX. MARKS : **80** TIME : **03.45 HRS.** DATE :- **25/06 / 2022**

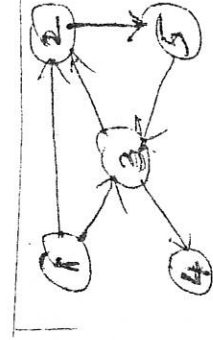
Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

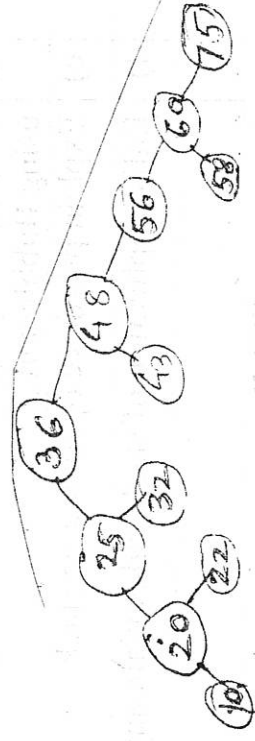
QN	S Q N	Question Text	R/ U/ A	Co ITG 310	Ma rks
Q.1		Attempt any FOUR :			08
	a)	What is linear Data structure?	U	1	
	b)	Enlist operations on data structure.	R	1	
	c)	Define searching.	R	2	
	d)	Define sorting.	R	2	
	e)	Define stack.	R	3	
	f)	What is Recursion?	U	3	
Q.2		Attempt any FOUR :			16
	a)	Define complexity and its type.	U	1	
	b)	Consider an integer array 99 88 77 11 22 44 33 66 55, using binary search technique find i) Data = 88 ii) Data = 89.	A	2	
	c)	Explain Redix sort with example.	U	2	
	d)	Develop a C program to sort an integer array in ascending order using Bubble sort.	A	2	
	e)	Explain primitive operation on stack.	U	3	
	f)	Enlist application of stack and explain anyone.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Explain various types of data structure.	U	1	
	b)	State the need of data structure.	U	1	
	c)	Explain merge sort with example.	U	2	
	d)	Develop a C program to implement linear search technique.	A	2	
	e)	Convert following expression into prefix and postfix form. i) $(A + B \uparrow D) / (E - F) + G$ ii) $((A + B) * (C - D)) / E$	A	3	
	f)	Develop a program to generate Fibonacci series using recursion.	A	3	

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Q.4	Attempt any FOUR :		08
	a) Define linked list.	R	5
	b) Enlist applications of binary search tree.	R	6
	c) State the applications of Queue.	A	4
	d) State operations on linear linked list.	R	5
	e) Enlist binary tree traversal methods.	R	6
	f) Define node.	R	5
Q.5	Attempt any FOUR :		16
	a) Write a C program to implement following operations on linear linked list with stores rollnos and names. i) traversing ii) searching.	R	5
	b) Explain Queue with example	U	4
	c) Consider following graphs and answer given. i) All simple path from 1 to 5. ii) In degree and out degree of 4 iii) Adjacency matrix for given graph. iv) Adjacency list representation of graph.	A	6
	d) Explain sequential representation of graph.	U	6
	e) Explain Edge, weighted graph, complete graph successor.	U	6
	f) Describe circular linked list with suitable diagram and also state advantages of circular linked list over linear linked list	U	5
Q.6	Attempt any FOUR :		14
	a) Write an algorithm to insert an element at the beginning and end of linked list.	A	5
	b) Draw and explain construction of circular queue.	U	4
	c) Traverse the following tree in inorder, preorder and postorder.	A	6
	d) Explain concept of priority queue.	U	6
	e) State the differences between tree and graph.	U	6
	f) Explain concept of double ended queue.	U	4



Q.5 (c)



Q.6 (c)

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EVEN TERM END EXAM JUNE – JULY 2022
EXAM SEAT NO.

LEVEL :- THIRD **PROGRAM : INFORMATION TECHNOLOGY**
COURSE CODE :- ITG302

COURSE NAME :- DIGITAL ELECTRONICS & MICROPROCESSOR

MAX. MARKS : 80 **TIME : 3.45 HRS.** **DATE :- 24/06/2022**

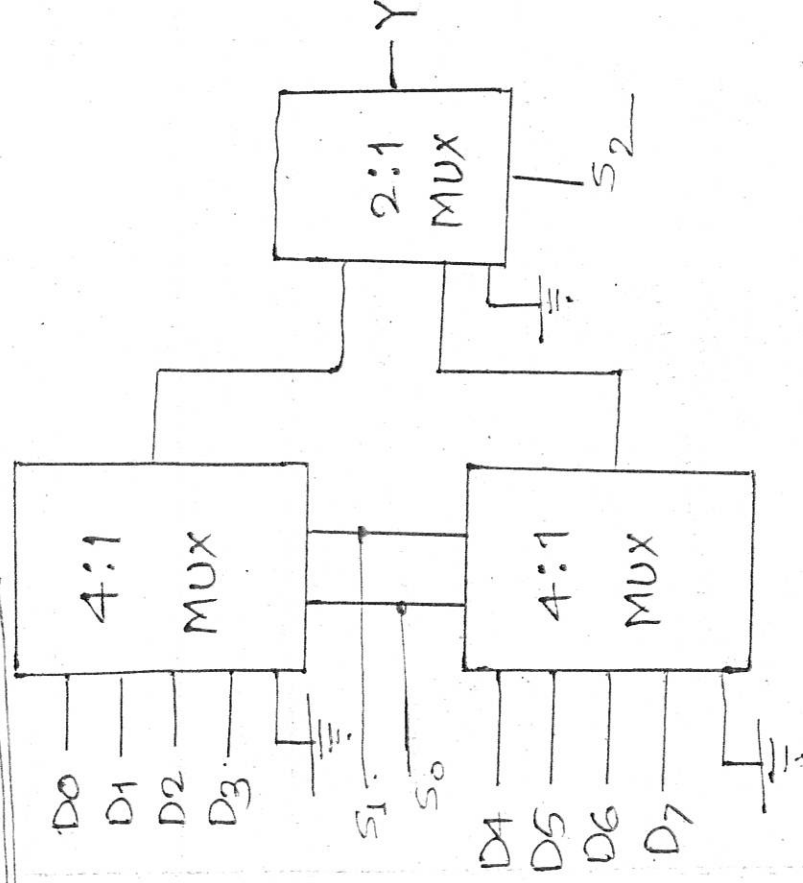
Instruction :-

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- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N		R/ U/ A	Co ITG 302	Mar ks
Q.1		Attempt any FOUR :			08
	a)	Define i) Propagation Delay. ii) Noise Margin – w.r.t. digital IC.	R	1	
	b)	Draw the symbol of Ex-OR gate along with its truth table.	R	1	
	c)	Draw the symbol of D Flip Flop & T Flip Flop along with their truth table.	R	3	
	d)	Convert $(11001101)_2$ into Gray code	U	1	
	e)	State the necessity of Multiplexer.	U	2	
	f)	Draw the circuit diagram for AND and OR gate using diodes.	U	1	
Q.2		Attempt any FOUR :			16
	a)	Describe the working of 4 bit SISO (Serial In Serial Out) shift register with diagram & waveform if input is 01101.	U	4	
	b)	Minimise $Y = \Sigma m(0,5,2,8,7,10,15,13)$ using K-map	U	2	
	c)	Identify the given circuit & write its truth table: (Figure No.1)	U	2	
	d)	Subtract using 2's complement method i) $(1110)_2 - (1001)_2$ ii) $(1000)_2 - (1001)_2$ iii) $(46)_{10}$ iv) $(144.4)_{10}$	A	1	
	e)	Convert the following decimal numbers into excess-3 code i) $(5)_{10}$ ii) $(25)_{10}$ iii) $(46)_{10}$ iv) $(144.4)_{10}$	U	1	
	f)	Construct half subtractor using K-map	U	2	
Q.3		Attempt any FOUR :			16
	a)	State DeMorgan's theorem and prove any one theorem.	R	1	
	b)	Minimise following Boolean equation using K-Map $Y = \overline{A}BC + \overline{A} \overline{B}C + \overline{A} \overline{B} \overline{C} + ABC$	U	2	
	c)	Compare combinational & sequential logic circuits (Any four points)	A	3	
	d)	Draw Master Slave JK Flip Flop and write its truth table	U	3	
	e)	Prove :- i) $A+AB=A$ ii) $A+B+C = ABC$	U	1	
	f)	i) Convert SOP into POS form $Y = \overline{A}\overline{C} + A.B$ ii) Convert POS into SOP form $Y = (A+B).(B+C)$	U	2	

QN	S Q N		R/ U/ A	Co ITG 302	Mar ks
Q.4		Attempt any FOUR :	A		08
	a)	State the difference between Segment registers and Index registers.	R	4	
	b)	State the difference between BIU & EU.	R	4	
	c)	State the functions of ALE and DEN pins.	R	4	
	d)	Define pipelining. State its advantage.	R	4	
	e)	State the meaning of DAA and AAA instructions.	R	5	
	f)	State the difference between SUB and CMP instruction.	R	5	
Q.5		Attempt any FOUR :			16
	a)	Draw the architecture of 8086 and explain in brief.	U	4	
	b)	Draw Pin schematic of 8086 & label it.	U	4	
	c)	Explain the concept of memory segmentation.	U	4	
	d)	Explain any four addressing modes of 8086.	U	5	
	e)	Draw timing diagram of minimum mode memory read operation.	A	5	
	f)	i) If CS contains 2400H; IP contains 1800H; Calculate 20 bit physical address ii) Write meaning of MOV AX, [SI] instruction, Write its addressing modes.	U	5	
Q.6		Attempt any TWO :			16
	a)	Write an ALP to add Series of 8 bit numbers.	A	5	
	b)	Write an ALP to divide two 16 bit unsigned numbers.	A	5	
	c)	Write an ALP to transfer series of 10 Sixteen bit numbers from one memory location to another memory location. Assume suitable memory locations.	A	5	
	d)	Write an ALP to multiply two 16 bit Signed numbers.	A	5	
	e)	Write an ALP to find smallest number from Series of 16 bit numbers.	A	5	
	f)	Write an ALP to subtract following two 16 bit numbers. No.1 – A1BC No.2 – 9FA2 Write the status of all flags after execution of this programme.	A	5	

Q.No. 02 (C).



(Figure No. 01)

P.T.O.

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EVEN TERM ENDE EXAM JUNE/JULY-2022**EXAM SEAT NO.**

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LEVEL :- THIRD**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITF302****COURSE NAME DIGITAL ELECTRONICS****MAX. MARKS : 80 TIME : 03.45 HRS. DATE :- 24/06 / 2022****Instruction :-**

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QN	S Q N	Question Text	R/ U/ A	Co ITG 302	Ma rks															
Q.1		Attempt any FOUR :			08															
	a)	Convert (254) ₈ = (____) ₁₀ .	A	1																
	b)	Explain distributive law with example.	U	2																
	c)	Give truth table of half subtractor. Draw its block diagram.	U	3																
	d)	Enlist all number systems. Make 2's complement of (0101) ₂ .	A	1																
	e)	If truth table of one gate is like <table><tr><td>A</td><td>B</td><td>Y</td></tr><tr><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>1</td><td>0</td></tr><tr><td>1</td><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td><td>0</td></tr></table> Then recognize the gate. If an inverter is connected next to this gate, then give truth table for output.	A	B	Y	0	0	1	0	1	0	1	0	0	1	1	0	A	2	
A	B	Y																		
0	0	1																		
0	1	0																		
1	0	0																		
1	1	0																		
	f)	Give two functions of each i) IC 7483 ii) IC 74181	R	3																
Q.2		Attempt any FOUR :			16															
	a)	Convert (4C2B) ₁₆ to decimal. Then convert the answer to octal.	A	1																
	b)	Prove De-Morgans theorms for 2 variables.	A	2																
	c)	Explain 4 bit binary adder using IC 7483	U	3																
	d)	Solve (647) ₁₀ – (389) ₁₀ using 10's complement.	A	1																
	e)	Implement full adder using half adder. Give truth table.	A	3																
	f)	Explain parallel binary adder.	U	3																
Q.3		Attempt any FOUR :			16															
	a)	Solve (11001011) ₂ - (00101000) ₂ using 2's complement.	A	1																
	b)	If $Y = AB + \overline{BC} + \overline{A} \overline{C}$, convert it to standard POS form.	A	2																
	c)	Define i) Multiplexer. ii) Decoder.	R	3																
	d)	Reduce the equation upto 2 variables. $Y = \overline{(A + A + B)} \cdot \overline{(B + B + C)}$	A	2																
	e)	Define i) EBCDIC code ii) ASCII code.	R	1																
	f)	Implement 4:1 multiplexer using 2:1 multiplexers.	A	3																

P.T.O.

Q.4	Attempt any FOUR :			08
	a) State the different triggering methods in digital circuits.	R	4	
	b) Give any two applications of DAC.	R	6	
	c) Compare EPROM & EEPROM (any two points)	U	5	
	d) State the various types of shift register.	R	4	
	e) List the disadvantages of binary weighted register DAC.	R	6	
	f) List any two advantages of semiconductor memories.	R	4	
Q.5	Attempt any FOUR :			16
	a) Explain the working of 4-bit ring counter with neat diagram.	U	4	
	b) Compare volatile and non-volatile memory (any four points)	U	5	
	c) Define the following specifications of DAC i) Resolution ii) Linearity iii) Accuracy iv) Settling time.	R	6	
	d) Explain with neat diagram how to convert JK FF into T FF? Write truth table.	U	4	
	e) Explain with neat block diagram of IC 2716. Sketch its pin diagram.	U	5	
	f) Calculate the analog output of 4-bit DAC, if the digital input is 1011. Assume $V = 5V$.	A	6	
Q.6	Attempt any FOUR :			16
	a) Compare static and Dynamic RAM.	U	5	
	b) Draw the block diagram of dual slope ADC and explain its working.	A	6	
	c) What is the race around condition in JK FF? How it can be avoided?	R	4	
	d) State the different types of ROMs & explain any one type of ROM.	R	5	
	e) How many bits are required for a resolution of 5mv? Full scale voltage is 15V.	R	6	
	f) Compare EPROM & FLASH (any four points)	U	5	

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EVEN TERM ENDE EXAM JUNE/JULY-2022

EXAM SEAT NO.

LEVEL :- FOURTH PROGRAM : INFORMATION TECHNOLOGY

COURSE CODE :- ITF404

COURSE NAME WEB TECHNOLOGY

MAX. MARKS : 80 TIME : 03.45 HRS. DATE :- 23/06 / 2022

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
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7) SQN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	SECTION -I	R/ U/ A	Co ITF 404	Ma rks
Q.1		Attempt any FOUR :			08
	a)	State the Role of IIS.	R	1	
	b)	Write uses of web application.	U	1	
	c)	List out client state management techniques.	R	2	
	d)	Define the term session object.	R	2	
	e)	State the use of OLEDB.	R	3	
	f)	Differentiate between ADO & RDO.	U	3	
Q.2		Attempt any FOUR :			16
	a)	Design a Webpage using listbox, dropdown list and button web controls.	A	1	
	b)	Explain concept of cookie with its advantages and disadvantages.	U	1	
	c)	Write steps to create global. asax file.	U	2	
	d)	Design webpage to create and display session object, sessionID, session, Timeout and sessionAbandon methods.	A	2	
	e)	Explain try –catch–finally block with example.	U	3	
	f)	Write down steps for configuring data link file.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Explain architecture of IIS with diagram.	U	1	
	b)	Explain properties and events of textbox and radio button webcontrol.	U	1	
	c)	Write asp.net program using C# to write and read cookies.	A	1	
	d)	Design webpage for login form using session object.	A	2	
	e)	Explain different methods for server object with example.	U	2	
	f)	Explain how to handle errors in ASP.Net.	U	3	

P.T.O.

QN		S Q N	SECTION -II		R/ U/ A	Co TF 404	Ma rks
Q.4			Attempt any FOUR :		A		08
	a)		List the methods of command objects.		A	3	
	b)		How transaction db is designed?		R	4	
	c)		Give the use of CDONTS object.		U	4	
	d)		Define Name spaces.		R	4	
	e)		Define XML.		U	5	
	f)		State difference between XML, and HTML.		U	5	
Q.5			Attempt any FOUR :				16
	a)		Create XML program using XML DTD.		A	5	
	b)		Explain XML as markup language with example.		U	5	
	c)		Write C# code for data table and data row with example in ASP.Net.		A	3	
	d)		Explain web.config file with example.		U	3	
	e)		Explain web method of web services.		U	4	
	f)		Explain the life cycle of web services.		U	4	
Q.6			Attempt any FOUR :				16
	a)		Write the difference between Data list and Datagrid with example.		R	3	
	b)		Explain creation of online application of shopping mall using data table and data row.		A	3	
	c)		How to design database for any transactions?		A	4	
	d)		What is public class? Explain structure of web services.		U	4	
	e)		Write step's to create a web service.		A	4	
	f)		Explain the evolution of XML.		U	5	

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EVEN TERM END EXAM JUN/JULY2022

EXAM SEAT NO.

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LEVEL :- **THIRD** PROGRAM : **INFORMATION TECHNOLOGY**

COURSE CODE :- **ITG311 / ITF406**

COURSE NAME :- **JAVA PROGRAMMING**

MAX. MARKS : **80** TIME : **3.45 HRS.** DATE :- **22/6/2022**

Instruction :-

1) Answers of two sections must be written in separate section answer book provided.

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QN		S Q N	Section-I				R/ U/ A	Co ITG 311	Mar ks
Q.1			Attempt any FOUR :						08
	a)		List out any four features of Java Programming				R	1	2
	b)		State the use of wrapper class with example				R	2	2
	c)		What is typecasting ? Give example				R	1	2
	d)		Define interface. Write syntax & example				R	3	2
	e)		State the use of nested interface?				R	3	2
	f)		Write syntax to create & import package with example.				R	3	2
Q.2			Attempt any FOUR :						16
	a)		Write Java Program using looping statement.				A	1	4
	b)		Explain final variable & method and final class concept.				U	2	4
	c)		Write Java program to implement method overriding.				A	2	4
	d)		Write Java program to use 2D –dimensional array.				A	2	4
	e)		Write a Java program to create and use package.				A	3	4
	f)		Explain the class and interface adding to a package concept				U	3	4
Q.3			Attempt any FOUR :						16
	a)		Explain Bitwise operator & conditional operator with example.				U	1	4
	b)		With syntax and example explain any four mathematical functions.				U	1	4
	c)		Write a Java program to reverse a string.				A	2	4
	d)		Explain types of inheritance.				U	2	4
	e)		Write a Java program to implement interface				A	3	4
	f)		Explain the local and static inner class concept				U	3	4

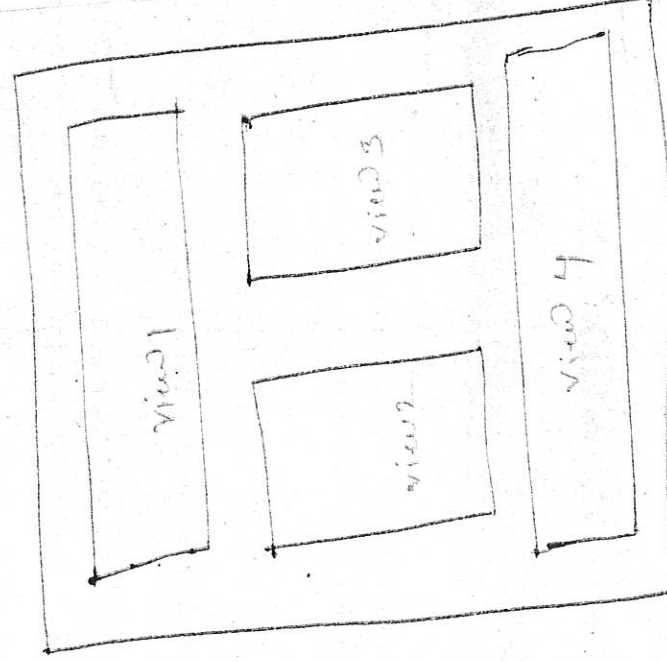
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QN			S Q N	Section- II		R/ U/ A	Co IEG 310	Mar ks
Q.4				Attempt any FOUR :				08
	a)			Enlist any four keywords used for exception handling in Java		R	4	02
	b)			Define thread priority. Write default priority values and methods to change them .		U	4	02
	c)			Draw thread life cycle diagram.		R	4	02
	d)			Give the syntax of <param> tag to pass parameters to an applet.		R	5	02
	e)			Define stream class. List it's types.		R	6	02
	f)			How to create a file in Java. Explain with example.		U	6	02
Q.5				Attempt any FOUR :				16
	a)			Explain the two ways of creating threads in Java.		U	4	04
	b)			Describe types of errors and exceptions in details		U	4	04
	c)			Write a program to accept a number from the user and throw an exception if the number is not prime number.		A	4	04
	d)			Develop a program to create two thread such that one thread will print odd numbers and the other thread will print even numbers between 1 to 20 numbers.		A	4	04
	e)			Differentiate between Java applet and Java application. (Any four points)		U	5	04
	f)			Describe following states of applet life cycle: i) Initialization state ii) running \$tate iii) Display state		U	5	04
Q.6				Attempt any FOUR :				16
	a)			Describe the use of following methods i) draw Oval () ii) drawstring () iii) getfont () iv) getfamily		U	5	4
	b)			Write a Program to design an applet showing three concentric circles filled with three different colors.		A	5	4
	c)			Write a Java program to display triangle filled with red color.		A	5	4
	d)			Write any four methods of file Input stream class. Give their syntax.		R	6	4
	e)			Write a Java program to copy the content of the file " file1.txt" into new file "file2.txt"		A	6	4
	f)			Write program to handle primitive data types.		A	6	4

p.t.o

	d)	Explain option menu with example.	U	5
	e)	Explain security permissions in detail	R	6
	f)	Describe the steps to add data to the contacts Database.	U	6
Q.6		Attempt any FOUR :		16
	a)	Observe the following GUI and write an XML file using relative layout to create the same. (See Figure)	A	4
	b)	Write a program to display scroll view.	A	4
	c)	Write a program to display current date and time using picker view.	A	5
	d)	Write a program to display "Bluetooth On" and "Bluetooth Off" message using toggle button.	A	5
	e)	Write a program to store employee information like name, date of birth and address in the Database.	A	6
	f)	Write a program to delete a record of employee from the Database.	A	6

6 a figure



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EVEN TERM END EXAM JUNE/JULY-2022

EXAM SEAT NO.

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LEVEL :- THIRD **PROGRAM : INFORMATION TECHNOLOGY**

COURSE CODE :- ITG308/ITF402

COURSE NAME SOFTWARE ENGINEERING

MAX. MARKS : 80 **TIME : 03.45 HRS.** **DATE :- 29/06 / 2022**

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
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QN	S Q N	Question Text	R/ U/ A	Co ITG 308	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Define software. Give its any two characteristics.	R	1	
	b)	State the types of requirement.	R	2	
	c)	State the characteristics of good SRS.	R	2	
	d)	Define DFD.	R	2	
	e)	List out the activities during project planning.	R	3	
	f)	Define LOC.	R	3	
Q.2		Attempt any FOUR :			16
	a)	Explain prototyping model with neat diagram.	U	1	
	b)	Explain the concept of spiral model with neat diagram.	U	1	
	c)	Define Agile. Explain the concept of extreme programming of agile process model.	U	1	
	d)	Describe the functional and nonfunctional requirements of software.	U	2	
	e)	Describe the importance of planning in software projects.	U	3	
	f)	Explain top down approach of effort estimation for COCOMO mode	U	3	
Q.3		Attempt any FOUR :			16
	a)	Explain the selection criteria for software process model.	U	1	
	b)	Explain RAD model with neat diagram.	U	1	
	c)	Describe the need of validation in software engineering.	U	2	
	d)	Differentiate between user and system requirement.	A	2	
	e)	Describe the concept of RMMM strategy.	U	3	
	f)	Explain management spectrum 4 P's in software project planning.	U	3	

P.T.O

Q.4	Attempt any FOUR :			08
	a) Which are the two parts of design process?		U	4
	b) List objectives of design.		R	4
	c) Define Quality Assurance.		R	5
	d) What is corrective maintenance?		U	5
	e) State the distribution of maintenance effort.		A	5
	f) Define preventive maintenance.		R	5
Q.5	Attempt any FOUR :			16
	a) Explain function oriented design.		R	4
	b) Describe why design is important?		U	4
	c) Explain six sigma for software Engineering.		R	5
	d) Explain Alpha, Beta and acceptance testing.		R	5
	e) Explain levels of reverse engineering.		U	6
	f) Explain potential solutions to maintenance problems.		A	5
Q.6	Attempt any TWO :			16
	a) List and explain types of cohesion.		R	4
	b) Write any four test cases for library management system.		A	5
	c) Draw and explain software maintenance process.		U	5

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EVEN TERM ENDE EXAM JUNE/JULY-2022**EXAM SEAT NO.**

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LEVEL :- THIRD**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITG304 / ITF304****COURSE NAME OOP USING C ++****MAX. MARKS : 80 TIME : 03.45 HRS. DATE :- 01/07 / 2022**

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITG 304	Ma rks
Q.1		Attempt any FOUR :			08
	a)	What is use of cast operator?	R	1	
	b)	What is friend function?	R	1	
	c)	Define class and object.	R	2	
	d)	Describe the use of static data member.	R	2	
	e)	State use of new operator.	R	2	
	f)	Define Destructor.	R	3	
Q.2		Attempt any FOUR :			16
	a)	Develop a C ++ program to find smallest number from two numbers.	A	1	
	b)	Differentiate between OPP & POP.	U	2	
	c)	How to make array of object in C ++? Give example.	U	2	
	d)	Develop a C++ program to declare a class 'student' with data member name Roll-no, and marks total, percentage, Declare the Function getdata to accept the name roll no and marks of Five subject and putdata to calculate and display the total marks and percentage of student.	A	2	
	e)	Explain Destructor with example.	U	3	
	f)	How to use Default arguments in constructor?	U	3	
Q.3		Attempt any FOUR :			16
	a)	Develop a C++ program to accept array of five element, find and display smallest member from an array.	A	1	
	b)	Explain operator precedence in C++.	U	1	
	c)	Explain private member Function with example.	U	2	
	d)	Explain Friend function with example.	U	2	
	e)	Develop a C++ program to declare a class addition which data members as X and Y. Initialize values of X and Y with constructor. Calculate addition and display it using function 'display'.	A	3	
	f)	Explain parameterized construction with example.	U	3	

P.T.O

Q.4	Attempt any FOUR :		08
	a) Define derived class.	R	4
	b) Define polymorphism.	R	5
	c) State different ways by which we can access member functions of an object.	R	5
	d) Define pointer with syntax.	R	5
	e) Define stream.	R	6
	f) Write syntax for getline () and. Write () functions.	A	6
Q.5	Attempt any FOUR :		16
	a) Explain ambiguity resolution concept with example.	U	4
	b) Write a program for this pointer.	A	5
	c) Describe formatted console I/O operations.	U	6
	d) Explain hierarchical inheritance with neat diagram.	U	4
	e) Write a program to illustrate virtual function.	A	5
	f) Describe the mechanism of exception handling in C++.	U	6
Q.6	Attempt any FOUR :		16
	a) Describe the concept of abstract classes.	U	4
	b) Write a C++ program to overload '+' operator for adding two classes objects.	A	5
	c) Describe the concept of End of file.	U	6
	d) Write a C++ program to open a text file and write 5 students name in it.	A	6
	e) Describe the concept of pure virtual function.	U	5
	f) Identify following inheritance and write a C++ program to implement it. Assume necessary member functions to input and display members.	A	4
Class : Student Data members : Name, Roll No. → Class : Test Data members : Marks → Class : Test Data members : Grade			

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EXAM SEAT NO.

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LEVEL :- FIRST PROGRAM : INFORMATION TECHNOLOGY

COURSE CODE :- ITG 105

COURSE NAME COMPUTER PERIPHERAL & HARDWARE MAINTAINANCE

MAX. MARKS : 40 TIME : 2.30 HRS. DATE :- 28/06 / 2022

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N		R/ U/ A	Co CEG 306	Mar ks
Q.1		Attempt any FOUR :			08
	a)	List types of computer.	R	1	2
	b)	Write any two differences between wired and wireless keyboard.	R	2	2
	c)	Write any two features of motherboard.	R	3	2
	d)	Define zone bit recording.	R	4	2
	e)	Write common features of processor.	R	5	2
	f)	Write use of L2 cache memory.	R	5	2
Q.2		Attempt any FOUR :			16
	a)	Explain working of optical mouse.	U	3	4
	b)	Write any four problems occurred during troubleshooting of keyboard.	U	2	4
	c)	Explain system clock & cache memory concept.	U	3	4
	d)	Explain FAT16 and FT32 file system.	U	4	4
	e)	Write any one diagnostic software name for trouble shooting PC and write basic steps of trouble shooting when PC is not working.	U	6	4
	f)	Explain UPS and its types.	U	6	4
Q.3		Attempt any FOUR :			16
	a)	Explain selection criteria's of motherboard.	U	3	04
	b)	List types of modem and write specification of any one modem.	R	2	04
	c)	List any four problems occurred during troubleshooting of motherboard. Write steps to troubleshoot if no power to motherboard.	A	3	04
	d)	List hardware interfaces and differentiate between PATA & SATA interface.	U	4	04
	e)	Explain BIOS and write steps to set date and time in BIOS setting.	U	5	04
	f)	Write troubleshooting steps when power supply is not working.	A	6	04

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LEVEL :- THIRD **PROGRAM : INFORMATION TECHNOLOGY**

COURSE CODE :- ITG306/ITF306

COURSE NAME COMPUTER NETWORK

MAX. MARKS : 80 **TIME : 03Hrs.45 min.** **DATE :- 06/07 / 2022**

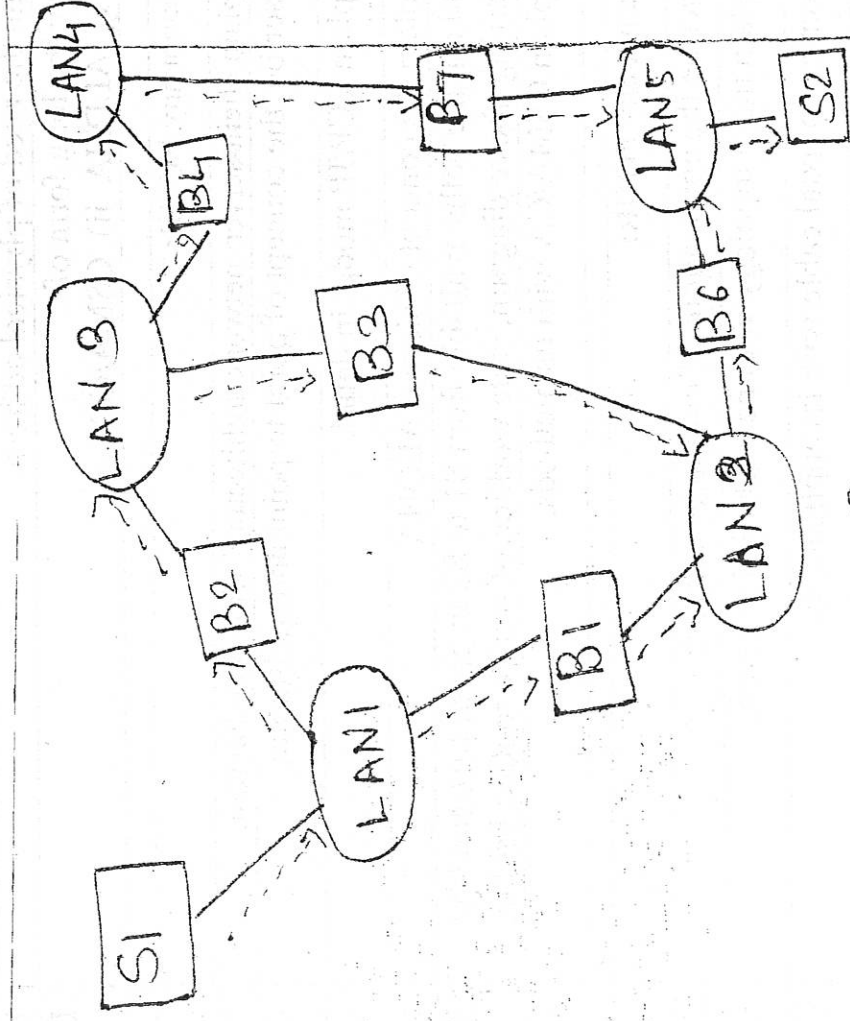
Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITG 306	Ma rks
Q.1		Attempt any FOUR :	A		08
	a)	Define Active network.	R	1	
	b)	State any two disadvantages of bus topology.	R	1	
	c)	Draw neat labelled diagram of WAN.	A	1	
	d)	Define unguided media.	R	1	
	e)	State the need of physical address.	R	2	
	f)	Give the long form of i) ALDHA ii) CSMA/CD	R	3	
Q.2		Attempt any FOUR :			16
	a)	Explain client-server network architecture with neat diagram.	U	1	
	b)	Describe the concept of point to point and multipoint.	U	1	
	c)	Explain TCP/IP model in detail.	U	2	
	d)	Explain the concept of slotted ALOHA.	U	3	
	e)	Find out the paths available from S1 to S2 in given fig. and by referring above diagram, state working of source routing bridge.	A	2	
	f)	Explain CSMA/CA with its methods.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Describe the applications of computer network.	U	1	
	b)	Explain mesh topology with neat labelled diagram.	U	1	
	c)	Describe co-axial cable with its applications.	U	1	
	d)	Explain Hubs with its types.	U	2	
	e)	Describe the concept of physical address and logical address.	U	2	
	f)	Describe the concept of CSMA/CD.	U	3	

P.T.O

Q.4	Attempt any FOUR :		08
	a) Enlist IEEE standards.	R 4	
	b) What is CIDR?	U 5	
	c) State use of NVT.	U 6	
	d) What is Socket?	A 5	
	e) Write uses of Bluetooth.	A 4	
	f) State classful addressing.	R 5	
Q.5	Attempt any FOUR :		16
	a) Illustrate Ethernet implementation 10 base 2 and 10 base 5.	R 4	
	b) Describe TCP/IP protocol suit.	U 5	
	c) Explain SMTP in detail.	R 6	
	d) Describe Fast Ethernet.	U 4	
	e) Explain functionality of VDP-TCP layers.	R 5	
	f) Describe MIME header in detail.	A 6	
Q.6	Attempt any FOUR :		16
	a) Explain IEEE802.11 Architecture.	U 4	
	b) Write IPv4 address in detail.	R 5	
	c) Describe Remote Logging.	A 6	
	d) Explain Gigabit Ethernet.	U 4	
	e) Describe VDP socket programming.	A 6	
	f) Explain file transfer protocol.	U 6	



Q.No.2 (c) fig (a)

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EVEN TERM END EXAM JUNE/JULY-2022**EXAM SEAT NO.**

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LEVEL :- THIRD**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITG307/ITF307****COURSE NAME OPERATING SYSTEM****MAX. MARKS : 80 TIME : 03hrs..45 min.****DATE :- 02/07 / 2022****Instruction :-**

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITG 307	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Define operating system.	R	1	
	b)	Define system call.	R	2	
	c)	Draw layered structure of operating system.	R	2	
	d)	Define Process.	R	3	
	e)	Enlist information contained in PCB.	R	3	
	f)	State concept of Thread.	U	3	
Q.2		Attempt any FOUR :			16
	a)	Enlist and state any four services provided by operating system.	R	1	
	b)	Explain parallel systems.	U	1	
	c)	Enlist system calls related to file and device management.	R	2	
	d)	Explain file management in detail.	U	2	
	e)	Explain functions performed by operating system for process management.	U	2	
	f)	Explain process state transition with neat diagram.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Explain the process of system boot.	U	2	
	b)	With neat diagram, explain inter process communication model.	U	3	
	c)	Compare between batch systems and multiprogrammed systems.	A	1	
	d)	Write advantages and limitations of layered operating system structure.	A	2	
	e)	Differentiate between I/O bound and CPU bound processes.	A	3	
	f)	Compare between short-term and long-term scheduler (any four points)	A	3	

P.T.O

Q.4	Attempt any FOUR :			08																		
	a) Define the term scheduling with its type.		R	4																		
	b) Enlist direct Methods of deadlock prevention.		R	4																		
	c) Explain following terms : i) Logical Address space ii) Physical Address space.		R	5																		
	d) Define the term Dynamic Loading.		R	5																		
	e) State any Four operations, which can be performed on the file.		R	5																		
	f) Define Polling.		R	5																		
Q.5	Attempt any FOUR :			16																		
	a) Differentiate between sequential access method and direct Access Method in file input.		U	5																		
	b) Consider the following set of processes.		A	4																		
		<table><tr><td>Process</td><td>Burst Time</td><td>Arrival time</td></tr><tr><td>P1</td><td>5</td><td>0</td></tr><tr><td>P2</td><td>15</td><td>1</td></tr><tr><td>P3</td><td>12</td><td>2</td></tr><tr><td>P4</td><td>25</td><td>3</td></tr><tr><td>P5</td><td>5</td><td>4</td></tr></table>	Process	Burst Time	Arrival time	P1	5	0	P2	15	1	P3	12	2	P4	25	3	P5	5	4		
Process	Burst Time	Arrival time																				
P1	5	0																				
P2	15	1																				
P3	12	2																				
P4	25	3																				
P5	5	4																				
	Find out Average Waiting time by using i) Non-preemptive SJF. ii) FCFS																					
	c) Enlist and Describe in detail methods for handling deadlock.		U	4																		
	d) Explain the difference between internal and external Fragmentation.		U	5																		
	e) Explain the concept of paging with example.		A	5																		
	f) Explain the term swapping with suitable diagram.		U	5																		
Q.6	Attempt any FOUR :			16																		
	a) Explain Address binding techniques with example.		U	5																		
	b) The jobs are scheduled for execution as follows. Solve the problem by using Round Robin (RR) scheduling using time quantum =02		A	4																		
		<table><tr><td>Process</td><td>Burst Time</td></tr><tr><td>P1</td><td>3</td></tr><tr><td>P2</td><td>6</td></tr><tr><td>P3</td><td>4</td></tr><tr><td>P4</td><td>2</td></tr></table>	Process	Burst Time	P1	3	P2	6	P3	4	P4	2										
Process	Burst Time																					
P1	3																					
P2	6																					
P3	4																					
P4	2																					
	c) State the meaning of the following terms related to process scheduling criteria :- i) Response Time ii) throughput iii) Average Waiting time iv) Turnaround time.		U	4																		
	d) Define scheduler. Explain multilevel queue scheduler with suitable example.		U	4																		
	e) How tree structured directory system used for files? Illustrate with example.		A	5																		
	f) Explain Application I/O interface with respect to I/O management.		U	5																		

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EVEN TERM END EXAM JUNE/JULY-2022**EXAM SEAT NO.**

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LEVEL :- THIRD PROGRAM : INFORMATION TECHNOLOGY**COURSE CODE :- ITG301/ITF301****COURSE NAME APPLIED MATHEMATICS****MAX. MARKS : 80 TIME : 03.45 HRS. DATE :- 30/06 / 2022****Instruction :-**

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITG 301	Ma rks														
Q.1		Attempt any FOUR :			08														
	a)	Evaluate $\int \frac{dx}{\sqrt{9-4x^2}}$.	R	1															
	b)	Evaluate $\int \frac{1-\tan x}{1+\tan x} dx$.	U	1															
	c)	Evaluate $\int_1^2 \frac{7x}{x^2+4} dx$	A	1															
	d)	Evaluate $\int_0^{\pi/4} \sin x \cdot \cos x \, dx$.	A	1															
	e)	Find the range for the data : <table><tr><td>No. of Students</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>Marks in Maths</td><td>20</td><td>25</td><td>80</td><td>30</td><td>10</td></tr></table>	No. of Students	2	3	4	5	6	Marks in Maths	20	25	80	30	10	U	2			
No. of Students	2	3	4	5	6														
Marks in Maths	20	25	80	30	10														
	f)	Find the range for the following data: <table><tr><td>Marks</td><td>10-19</td><td>20-29</td><td>30-39</td><td>40-49</td><td>50-59</td><td>60-69</td></tr><tr><td>No. of students</td><td>6</td><td>10</td><td>16</td><td>14</td><td>8</td><td>4</td></tr></table>	Marks	10-19	20-29	30-39	40-49	50-59	60-69	No. of students	6	10	16	14	8	4	U	2	
Marks	10-19	20-29	30-39	40-49	50-59	60-69													
No. of students	6	10	16	14	8	4													
Q.2		Attempt any FOUR :			16														
	a)	Evaluate $\int \tan^{-1} \left(\frac{\sin x}{1+\cos x} \right) dx$	U	1															
	b)	Evaluate $\int \frac{dx}{x^2-6x-7}$	A	1															
	c)	Evaluate $\int \frac{dx}{5+4 \cdot \cos x}$	A	1															
	d)	Evaluate $\int_0^{\pi/2} \frac{\cos x}{8+2 \sin x} dx$	A	1															

P.T.O

c)	Calculate the mean deviation from mean for the following data:						U	2
	Marks	3	4	5	6	7	8	
	No. of Students	1	3	7	5	2	2	
f)	Calculate standard deviation of the following frequency distribution.						U	2
	C.I.	0-10	10-20	20-30	30-40	40-50		
	f _i	14	23	27	21	15		16
Q.3	Attempt any FOUR :							
a)	Evaluate	$\int \frac{dx}{3 \sin^2 x - 2 \cos^2 x + 1}$					A	1
b)	Evaluate	$\int \sin^{-1} x dx$					A	1
c)	Evaluate	$\int \frac{dx}{(x-1)(x+2)(2x-1)}$					A	1
d)	Evaluate	$\int_2^3 x \cdot e^{2x} dx$					A	1
e)	Evaluate	$\int_2^3 \frac{\sqrt[3]{x+5} dx}{\sqrt[3]{x+5} + \sqrt[3]{10-x}}$					A	1
f)	Find mean deviation of the following data						U	2
	C.I.	10-20	20-30	30-40	40-50	50-60	60-70	
	f _i	4	6	10	18	9	3	
Q.4	Attempt any FOUR :							08
a)	Find order and degree of the differential equation $\frac{d^2 y}{dx^2} = \sqrt{y + \frac{dy}{dx}}$						R	3
b)	Two coins are tossed at random. Write down the following events. A: Both are heads B: Atleast one is tail						R	4
c)	Solve : $e^y \frac{dy}{dx} = x^2$						A	3
d)	For a binomial distribution the mean is 12 and variance is 4. Find all constants.						R	4
e)	Show that the following differential equation is exact: $(e^y + 1) \cos x dx + e^y \sin x dy = 0$						U	3
f)	If $P(A) = \frac{1}{2}$, $P(A \cap B) = \frac{1}{6}$ and $P(A \cup B) = \frac{7}{12}$ then find P (B).						R	4
Q.5	Attempt any FOUR :							16
a)	One thicket is drawn at random from a bag containing 20 tickets numbered from 1 to 20. Find the probability that the number on ticket drawn is either even or square of an integer.						A	4
b)	Solve : $\sec^2 x \tan y dx + \sec^2 y \tan x dy = 0$ Also find particular solution, if $y = \frac{\pi}{4}$ when $x = \frac{\pi}{4}$						A	3
c)	Solve : $y^2 + x^2 \frac{dy}{dx} = xy \frac{dy}{dx}$						U	3
d)	If the chance of being killed by flood during a year is 1/300. Using Poisson distribution, find the probability that out of 3000 persons living in the area at least one would die in flood in that year.						U	4

	c)	An examination containing multiple choice questions is designed so that the probability of a correct choice for any question by guessing alone is 0.2. What is the probability that a student will not get more than 4 questions right out of 20 merely by guessing?	A	4	
	f)	Solve $x \log x \frac{dy}{dx} + y = 2 \log x$.	A	3	
Q.6		Attempt any FOUR :			16
	a)	Solve the D.E. $\left(y + x^2 y \right) \frac{dy}{dx} - (3x + xy^2) = 0$	U	3	
	b)	Solve the following differential equation: $(ye^{xy} - 2y^3) dx + (xe^{xy} - 6xy^2 - 2y) dy = 0$	A	3	
	c)	Take 100 sets of 10 tosses of an unbiased coin. In how many cases, do you expect to have i) 7 heads and 3 tails ii) Atleast 7 heads.	U	4	
	d)	Using Poisson distribution, find the probability that ace of spade will be drawn from a pack of well shuffled cards atleast once in 104 consecutive trials.	A	4	
	e)	Sacks of sugar packed by an automatic loader have an average weight at 100kg and standard deviation of 250 grams. Assuming Normal distribution, find the chance of getting a sack weighing less than 99.5 kg. (Given : for SNV Z, area from Z=0 to Z=2 is 0.4772)	A	4	
	f)	Solve $\frac{dy}{dx} + y \tan x = \cos^2 x$	A	3	

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LEVEL :- FIFTH**PROGRAM : INFORMATION TECHNOLOGY****COURSE CODE :- ITF506****COURSE NAME CLOUD COMPUTING****MAX. MARKS : 80 TIME : 03.45 HRS. DATE :- 27/06 / 2022****Instruction :-**

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	SECTION - I	R/ U/ A	Co ITF 506	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Define software as a service in cloud computing	R	1	
	b)	State role of platform as a service (Paas) in cloud. Give names of cloud vendor providing Paas service.	R	1	
	c)	Draw a labelled diagram of cloud components.	R	1	
	d)	Enlist Amazon, Google, Microsoft cloud products with usages. (any four)	R	1	
	e)	Why sensitive information is one of limitation of cloud computing?	U	2	
	f)	List out Google App Engine features. (Any four)	U	3	
Q.2		Attempt any FOUR :			16
	a)	Define Hypervisor. Explain applications of hypervisors.	U	1	
	b)	Explain cloud computing scenarios.	U	2	
	c)	Explain following points of cloud limitations i) Protect your data ii) Applications not ready.	U	2	
	d)	Explain Microsoft Window Live and Exchange Online cloud services.	U	3	
	e)	Explain Amazon S ₃ and Amazon SQS cloud services.	U	3	
	f)	Explain IBM services and security in cloud computing.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Explain Hardware as a service (Haas) with advantages and example.	U	1	
	b)	Explain applications of cloud computing. (Any four).	U	1	
	c)	List and explain any four benefits of cloud computing.	U	2	
	d)	How are Geopolitical concern's and hardware dependencies decides that you should not prefer to use cloud computing?	A	2	
	e)	Explain partnership between HP, Intel & Yahoo!.	U	3	
	f)	Explain NetApp offerings and google webtool kit services of cloud.	U	3	

P.T.O.

QN		SECTION -II		R/	Co	Ma
		S	N	U/	ITF	rks
Q.4		Attempt any FOUR :		A	500	08
	a)	Explain Forensics.		U	4	
	b)	Explain optimized Internet overlay.		U	4	
	c)	State the need of redundancy in cloud computing.		R	4	
	d)	State the need of virtualization.		R	5	
	e)	Explain use the wave approach.		U	6	
	f)	List more popular cloud applications.		R	6	
Q.5		Attempt any FOUR :				16
	a)	Differentiate between different types of client.		U	4	
	b)	Explain cautions used in cloud computing.		U	4	
	c)	Differentiate between public internet and accelerated internet.		U	4	
	d)	Explain mobile device integration.		U	5	
	e)	Explain health vault.		U	5	
	f)	Explain V-Motion.		U	6	
Q.6		Attempt any TWO :				16
	a)	Differentiate between software as service and software plus service. List and explain different services offered by different vendors.		U	5	
	b)	Explain Skytap solution.		U	6	
	c)	List and explain any one performance monitoring tool.		U	6	

	c) List and explain any four relational operators along with their symbols and use.	R	1
	d) Explain the scope and lifetime of variables with example.	U	3
	e) Write a program to calculate the circumference of the circle.	A	1
	f) Write a program to find factorial of a number using user defined function.	A	3
Q.4	Attempt any FOUR :		08
	a) Define Array.	R	4
	b) How to access array element?	A	4
	c) State use of strlen () with example.	A	5
	d) How to define a structure?	U	6
	e) How to find out size of structure?	R	6
	f) Compare variable and pointer.	U	6
Q.5	Attempt any FOUR :		16
	a) Explain two dimensional arrays.	R	4
	b) Write a C program to take 5 values from the user and store them array. Print the elements stored in array.	A	4
	c) Describe strcpy () and strcat () with example.	U	5
	d) Write a C program to copy string.	A	5
	e) Write a C program to access address of variable.	U	6
	f) Explain accessing structure members.	R	6
Q.6	Attempt any Two :		16
	a) Write a C program to find the average of 'n' numbers using array's	A	4
	b) Write a C program to find vowels from user entered string.		
	c) Write a C program to store student information and display it using structure.	A	5
		A	6

GOVERNMENT POLYTECHNIC, KOLHAPUR – 416004.

(An Autonomous Institute of Govt. Of Maharashtra)

EVEN TERM END EXAM JUNE/JULY-2022

EXAM SEAT NO.

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LEVEL :- **THIRD**

PROGRAM : **INFORMATION TECHNOLOGY**

COURSE CODE :- **ITG303/ITF303**

COURSE NAME **DATA COMMUNICATION**

MAX. MARKS : **80** TIME : **03Hrs.45 min.**

DATE :- **11/07 / 2022**

Instruction :-

- 1) Answers of two sections must be written in separate section answer book provided.
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.

- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITG 303	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Enlist functions of data link layer.	R	1	
	b)	Define protocol.	R	1	
	c)	State half-duplex and full duplex transmission modes.	R	1	
	d)	Find the frequency of a signal if its period is 20ms.	A	2	
	e)	Define digital to analog conversion.	R	3	
	f)	State concept of multiplexing.	R	3	
Q.2		Attempt any FOUR :			16
	a)	Explain different types of data representation.	U	1	
	b)	State bit rate and bit length in digital signal.	R	2	
	c)	Explain Frequency shift keying with neat diagram.	U	3	
	d)	Explain broadband transmission of digital signal.	U	2	
	e)	Explain time and frequency domain representation of a signal.	U	2	
	f)	Explain FDM with neat diagram.	U	3	
Q.3		Attempt any FOUR :			16
	a)	Explain functions of physical layer.	U	1	
	b)	Explain analog data and digital data.	U	2	
	c)	Compare FDM and TDM (any four points)	A	3	
	d)	Explain the process of data exchange using OSI model with neat diagram.	A	1	
	e)	Compare analog and digital signal.	A	3	
	f)	Explain phase Modulation.	U	3	

P.T.O

Q.4	Attempt any FOUR :			0										
	a) What is Delta modulation?		R	4										
	b) State types of wireless transmission.		R	4										
	c) Enlist types of errors.		R	5										
	d) Define data words.		R	5										
	e) Write the use of simplest protocol.		R	6										
	f) Write functions of data link control.		R	6										
Q.5	Attempt any FOUR :			1										
	a) Explain with diagram pulse code modulation.		U	4										
	b) Explain coaxial cable with its advantages.		U	4										
	c) Explain process of CRC (Cyclic Redundancy Check)		U	5										
	d) Explain linear block codes using i) Simple parity check with example. ii) Hamming code with example.		U	5										
	e) Describe stop and wait protocol.		U	6										
	f) What is Framing? Describe variable size Framing.		U	6										
Q.6	Attempt any FOUR :			1										
	a) Draw and explain serial transmission modes.		U	4										
	b) Describe fibre Optic cable.		U	4										
	c) Find the minimum hamming distance for following coding schemes.		A	5										
	<table><tr><td>Dataword</td><td>Codeword</td></tr><tr><td>00</td><td>000</td></tr><tr><td>01</td><td>011</td></tr><tr><td>10</td><td>101</td></tr><tr><td>11</td><td>110</td></tr></table>				Dataword	Codeword	00	000	01	011	10	101	11	110
Dataword	Codeword													
00	000													
01	011													
10	101													
11	110													
	d) Compare detection and correction.		U	5										
	e) Explain Go-Back-N ARQ protocol for Noisy channel.		U	6										
	f) Explain piggybacking.		U	6										

GOVERNMENT POLYTECHNIC, KOLHAPUR – 416004.

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EVEN TERM END EXAM JUNE/JULY-2022

EXAM SEAT NO.

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LEVEL :- FIRST

PROGRAM : INFORMATION TECHNOLOGY

COURSE CODE :- ITG102

COURSE NAME WEB PAGE DESIGNING

MAX. MARKS : 40 TIME : 02Hrs.30 min.

DATE :- 12/07 / 2022

Instruction :-

- 1) Answers must be written in the main answer book provided.(and supplements if required)
- 2) Illustrate your answers with sketches wherever necessary.
- 3) Use of non-programmable pocket calculator is permissible.
- 4) Mathematical and other tables shall be made available on request.
- 5) Assume and mention suitable additional data if necessary.
- 6) Use of Mobile is strictly prohibited.
- 7) QN- Question No., SQN-Sub Question No. R- Remembering, U- Understanding, A- Application.

QN	S Q N	Question Text	R/ U/ A	Co ITG 102	Ma rks
Q.1		Attempt any FOUR :			08
	a)	Define WWW.	R	1	
	b)	Enlist the different image formats.	R	2	
	c)	Define List tag and nested lists	R	3	
	d)	State the pull down menus.	R	4	
	e)	Enlist the text level elements.	R	1	
	f)	Write the style sheet properties.	R	5	
Q.2		Attempt any FOUR :			16
	a)	Explain the structure tags.	U	1	
	b)	Define URL. Explain types of URL.	U	2	
	c)	Explain Text animation with MARQUEE element.	U	3	
	d)	State the features of HTMLS.	U	5	
	e)	Explain the form fields in detail.	U	4	
	f)	Explain how to create basic tables.	U	4	
Q.3		Attempt any FOUR :			16
	a)	State the advantages of Bootstrap.	A	5	
	b)	Create a web page to include images with different alignment.	A	1	
	c)	Explain the different forms of buttons.	A/ U	4	
	d)	Explain spanning of rows and columns.	U/ A	4	
	e)	Design a web page and apply block level tags and HR tags.	A	2	
	f)	Explain how to create the basic form with example?	A	5	
