			VIVEKANA	NDA COLLEO	GE, TIRUVEDAKAN	WEST - 625234		
				DEPAR	TMENT OF COMP	UTER SCIENCE		
Toron		The	Course Code:	10EP5A	Programme:	B.Sc., Comp. Sci	CIA:	III
			Date:	28.12.2021	Part:	III	Semester:	V
			Duration:	2 Hours	Academic Year:	2021-2022	Max.Marks:	75
	HEARIT	FAU	Study Compon	ent: El	ective	-		
					SECTION – A			
Ans	wer A	ALL	the Ouestions:			(5	5 X 5 = 25 Marks	s)
1	a.	Wr	ite short notes on ori	igins of Cloud C	computing	(-	CO	1
				e	(OR)			
	b.	Coi	mpare the characteria	stics of IaaS, Pa	aS, SaaS?		CO	1
2	a.	Wh	at is Virtualization?	What are its ben	nefits?		CO	2
					(OR)			
	b.	List	t and discuss various	s types of Virtua	lization?		CO	2
3	a.	Exp	plain in detail about	System testing			CO.	3
		** 7		(1) C ² (1)	. (OR)		CO	•
4	b.	Wr Wr	ite short notes on Co	ost benefit analys	\$1\$.		CO.	3 1
4	a.	VV II	the short notes on CI	oud standards	(OP)			4
	h	Wr	ite short notes about	security standar	(UK)		CO	4
5	ม. จ	Wh	at is the need for clo	and Governance	.us.			1 5
J	a.	** 11			(OR)			
	b.	Ext	plain briefly the secu	rity concerns of	cloud computing.		CO	5
	~.	r	j		SECTION – B			
Ans	wer	ALI	Questions:			(5	X 10 = 50 Marks	s)
6	a.	Ide	ntify the challenges	in cloud comput	ing?		CO	1
					(OR)			
	b.	Exp	plain the cloud comp	onents in detail.			CO	1
7	a.	Ap	ply the concept of se	even-step model	for migration into a clo	oud.	CO	2
					(OR)			-
0	b.	Dis	cuss in detail about	all the Levels of	Virtualization Impleme	entation.	CO	2
8	a.	Ela	borate Cloud compu	iting benefits and	d limitations.		CO.	3
	h	Dia	ouss in dotail shout	wah haad anal:	(UK)			2
0	ມ. ຈ		nly the key manager	nent functions in	values			5 1
7	а.	Λp	pry the key managen		(OR)			-
	h.	Ext	plain techniques for	the risks assessn	nent and Management f	for cloud?	CO	4
10	а.	Dis	cuss the regulatory i	issues of cloud c	omputing and the gove	rnment policies	CO	5
_•		_ 10			(OR)	r r		-
	h.	Exr	plain the cloud secur		CO	5		

			VIVEKANA	NDA COLLE	GE, TIRUVEDAKAN	M WEST - 625234					
				DEPAR	RTMENT OF COMP	UTER SCIENCE					
TOTTOM			Course Code:	10SB31	Programme:	B.Sc., Comp. Sci	CIA:	III			
			Date:	21.12.2021	Part	IV	Semester:	III			
	a		Duration:	1 Hour	Academic Year:	2021-22	Max.Marks	: 25			
EAND HE	ARI	A	Study Compo	nent:	Skill Based						
			Course Title: OPERATING SYSTEM								
		•			SECTION – A						
Ans	wer	ALL 1	the Questions:			(5	5 X 5 = 25 Mar	ks)			
1	a.	List	the various service	es provided by o	perating systems		C	D1			
					(OR)						
b. Explain different operating system structures with neat sketch								D1			
2 a. List the steps needed to handle page fault.						C)2				
			(OR)								
	b.	Expl	ain about given m	emory managen	nent techniques. (i) Parti	tioned allocation (ii) Pa	iging and CO)2			
		trans	lation look-aside l	ouffer.							
3	a.	Expl	ain in detail about	FIFO			C)3			
					(OR)						
	b.	Expl	ain in detail about	Job scheduling.			C)3			
4	a.	Elab	orate about the fre	e space manage	ment on I/O buffering a	nd blocking	C)4			
					(OR)						
	b.	Disc	uss how the follow	ving pairs of sch	eduling criteria conflict	in certain Settings I/O	device CO)4			
		utiliz	zation and CPU ut	lization.							
5	a.	Give an example of an application in which data in a file should be accessed in the following									
		order (i) Sequential (ii) Random									
					(OR)						
	b.	Defi	ne cache memory.	Explain the mag	pping process followed	in cache memory.	C)5			

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		DEPARTMENT OF COMPUTER SCIENCE								
-	Course Code:	10SB5	51	Programme:	B.Sc., Comp. Sci	CIA:	III			
	Date: 21.12		2021 Part:		IV	Semester:	V			
	Duration:	1 Hou	1 Hour Academic yea		2021-22	Max. Marks:	50			
RIHEAD	Study Component:		Skill Based							
	Course Title: COMPETIT			VE EXAMINATIO	N FOR IT					

SECTION – A

Answer **ALL** the Questions:

1 Who developed Python Programming Language?

- a) Wick van Rossum b) Rasmus Lerdorf c) Guido van Rossum d) Niene Stom
- Which type of Programming does Python support?a) object-oriented programming b) structured programming c) functional programming d) all of the mentioned
- 3 Which of the following is the correct extension of the Python file? a) .python b) .pl c) .py d) .p
- 4 Which of the following is used to define a block of code in Python language? a) Indentation b) Key c) Brackets d) All of the mentioned
- 5 Which keyword is used for function in Python language? a) Function b) Def c) Fun d) Define
- 6 Which of the following character is used to give single-line comments in Python?
 a) // b) # c) ! d) /*
- 7 Which of the following functions can help us to find the version of python that we are currently working on?

a) sys.version(1) b) sys.version(0) c) sys.version() d) sys.version

- 8 What is the order of precedence in python?
 - a) Exponential, Parentheses, Multiplication, Division, Addition, Subtraction
 - b) Exponential, Parentheses, Division, Multiplication, Addition, Subtraction
 - c) Parentheses, Exponential, Multiplication, Division, Subtraction, Addition
 - d) Parentheses, Exponential, Multiplication, Division, Addition, Subtraction
- 9 What does pip stand for python?a) unlimited length b) all private members must have leading and trailing underscoresc) Preferred Installer Program d) none of the mentioned
- 10 Which of the following is true for variable names in Python?a) underscore and ampersand are the only two special characters allowed b) unlimited lengthc) all private members must have leading and trailing underscores d) none of the mentioned
- Which of the following functions is a built-in function in python?a) factorial()b) print()c) seed()d) sqrt()
- 12 Which of the following is the use of id() function in python?a) Every object doesn't have a unique id b) Id returns the identity of the objectc) All of the mentioned d) None of the mentioned
- 13 Which of the following is not a core data type in Python programming?a) Tuples b) Lists c) Class d) Dictionary
- 14 What will be the output of the following Python function? len(["hello",2, 4, 6])a) Error b) 6 c) 4 d) 3
- 15 What will be the output of the following Python code?
 - x = 'abcd'
 for i in x:
 print(i.upper())

a) a B C D b) a b c d c) error d) A B C D

(50 X 1 = 50 Marks)

- **16** GUI stands for a)Graphics uniform interaction b) Graphical user interaction c)Graphical user interface d)None of the above
- 17 Graphics can be -a)Simulation b)Drawing c)Movies, photographs d)All of the above
- 18 CAD stands for a)Computer art design b)Computer-aided design c)Car art design d)None of the above
- **19** The components of Interactive computer graphics are a)A monitor b)Display controller c)Frame buffer d)All of the above
- 20 What is a pixel mask?a) a string containing only 0's b) a string containing only 1's c) a string containing two 0's d) a string containing both 1's and 0's
- 21 Aspect Ratio can be defined as a)The ratio of the vertical points to horizontal points of pixels b)Both (a) & (b) c)None of the above d) All of the above
- 22 Which of the following is not the pattern of line? a)Dotted line b)Dashed line c)Dark line d)All of the above
- DDA stands for a)Direct differential analyzer b)Data differential analyzer
 c) Direct difference analyzer d)Digital differential analyzer
- 24 The process of positioning an object along a straight line path from one coordinate point to another is called a)Translation b)Reflection c)Shearing d)Transformation
- 25 Which of the following equation is used in 2D translation to move a point(x,y) to the new point (x',y')?

```
a) x' = x + ty and y' = y + tx b)x' = x - tx and y' = y - ty c)x' = x + tx and y' = y + ty
x' = x + tx and y' = y - ty
```

- Arrange the following words in a meaning full order:
 1.Reading 2.Composing 3.Writing 4.Printing
 a) 1,3,4,2 b)2,3,4,1 c) 3,1,2,4 4) 3,2,4,1
- Arrange the following words in a logical sequence.
 1.Application 2.Selection 3.Exam 4.Interview 5.Advertisement
 a) 1,2,3,5,4 b)5,1,3,4,2 c) 5,3,1,4,2 d)4,5,1,2,3
- 28 Arrange the following words in a meaningful order.
 1.Andra Pradesh 2.Universe 3.Tirupati 4.World 5.India
 a)3,1,4,5,2 b) 1,3,5,4,2 c) 3,1,5,4,2 d) 3,1,2,4,5
- 29 A man walks 1 km to East and then he turns to south and walks 5 km. Again he turns to East and walks 2 km. After this he turns to North and walks 9 km. Now, how far is he from his starting point? (a) 3 km (b) 4 km (c) 5 km (d) 7 km
- 30 If South-East becomes north and south becomes North-East and all the rest directions are changed in the same manner, the will be thee direction for west?
 (a)North-East (b) North-West (c) South-East (d) South-West
- 31 You should save your computer from?(a)Viruses (b) Time Bombs (c) Worms (d) All of the above
- Which is the layer of a computer system between the hardware and the user program (a)Operating environment (b) Operating system (c) System environment (d) None of the above
- 33 The operating system is the most common type of ______ Software(a) Communication (b) Application (c) System (d) Word Processing Software
- 34 What is the default file extension created by notepad?(a).doc (b) .html (c) .txt (d) .tiff
- Which of the following is not the user file extension?(a).ppt (b).xls (c).sys (d) .doc
- 36 Who is the father of C language?
 (a)Bjarne Stroustrup (b) James A.Gosling (c) Dennis Ritchie (d) Dr.E.F.codd
 37 In Java arrays are
- (a) objects (b) object references (c) primitive data type (d) None of the above
- **39** 6:36 ::9 :? (a)81 (b)98 (c)42 (d) 56

- 40 Mother : Daughter :: father : ?

 (a)Son (b) Brother (c) Boy (d) Sister

 41 4,7,12,19,28,?

 (a)49 (b) 36 (c) 30 (d) 39
- 42 The hexa number 9AF convert to binary number is (a)100110101111(b)100111101(c)100010001011(d)100100111100
- **43** In a class there are 20 boys & 15 girls. The ratio of boys to girls are (a)4:3 (b)4:5 (c)3:9 (d)18:49
- 44 Java is a <u>language</u>. (a)weakly typed (b)strongly typed (c) moderate typed (d) None of these above
- 45 Size of int java is (a)16 bit (b)32 bit (c) 64 bit
- 46 Exception generated in try block is caught in _____ block.(a)Catch (b) throw (c) throws (d) finally
- 47 Select from among the following character escape code which is not available in java.
 (a)\t (b) \a (c) \\b (d) \\v
- 48 How many primitive data types are there in java?(a)6 (b) 7 (c)8 (d) 9
- 49 What is right way to initialize array?
 (a) int num [6]={2,4,12,5,45,5}; (b) int n {}={2,4,12,5,45,5}; (c) int n{6}={2,4,12};
 (d) int num (6)={2,4,12,5,45,5};
- 50 Which one of the following is a valid statement?
 (a)char[] c=new char(); (b) char[] c=new char[5]; (c) char[] c=new char(4);
 (d) char[] c=new char[];

			VIVEKANA	NDA COLLE	GE, TIRUVEDAKA	M WEST - 625234		
				DEPAR	TMENT OF COMP	UTER SCIENCE		
Torrow Will		27	Course Code:	10AT11	Programme:	B.SC., Comp. Sci	CIA:	III
125	影		Date:	28.12.2021	Part:	III	Semester:	Ι
	a		Duration:	2 Hours	Academic Year:	2021-22	Max.Marks:	75
HANDH	ARI	AD	Study Compo	nent Allied	1			
			Course Title:	DISCRETE	MATHEMATICS			
					SECTION – A			
Ans	wer A	ALL	the Questions:			(!	5 X 5 = 25 Mark	s)
1	a.	Let	$U=\{1,2,3,\ldots,10\},\$	A={1,3,5,7,9},E	$B = \{2, 4, 6, 8, 10\}, C = \{3, 6, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$	9}. Find the De- Morga	an's Law CO	1
	b.	Let	f:Z to Z be a function $2X + 2$ Find i) for a	on defined by f(x	x)=2X+3, let g:Z to Z be	e a function defined by	CO	1
2	a.	g(x) Exp	1=3X+2. Find 1)log plain about the types	of Matrix.			CO	2
	h	If	A = (2 - 3)	Show that A((OR) A-D(A+2I) = 0		CO	2
							00	-
3	9	Ver	-5 2 -4	J n (P V O) VRV9	S is tautology or not		CO	3
5	a.	(OR)						
	b. Explain about the truth table in mathematic logic.						CO	3
4	a.	Finc	d the generating fun	ction for $f_n=3^n$,	$n \ge 0$ in closed form (OR)		CO	4
	b.	Fine	d the recurrence rela	ation, satisfying	$Y_n = A(3)^n + B(-2)^n$		CO	4
5	a.	Wri	te about i) Graph ii) Simple Graph	(OR) iii) Degree of a Vertex.		CO	5
	b.	Exp	lain briefly about N	lerge Sort.			CO	5
					SECTION – B			
Ans	wer		Questions:	and its types		(5	X 10 = 50 Mark	s)
0	a.	wri	te about functions a	ind its types	(OR)		CO	1
	b.	a) L	Let $U = \{-10, -9, -8,, B\}$	0 A={ -5,-3,-2	$2,-1$ B= $\{-2,-1,0\}$ and $(-2,-1,0)$	$C = \{-6, -4, -2\}$. Find A\(E)	B\C) CO	1
7	a.	Wri	te about Matrix and	l its advantage			СО	2
					(OR)			
	b.	Finc	d the rank of matrix	$\begin{bmatrix} 1 & 2 & 3 & -1 \\ 3 & 6 & 9 & -3 \end{bmatrix}$	()		CO	2
				246-2	/	-		_
8	a.	Con	struct the truth tabl	e for ~ (P^ Q)́ →	[~PV (~PVQ)]⇔~PV (OR)	Q	CO	3
	b.	Con	struct the truth tabl	e for $(\sim P \land (\sim Q \land)$	$\mathbf{R}))\mathbf{V}((\mathbf{Q}_{\wedge}\mathbf{R})\mathbf{v}(\mathbf{P}_{\wedge}\mathbf{R}))$		СО	3
9	a.	Usiı	ng generating funct	ion, solve the dif	$\begin{array}{c} \text{fference equation } Y_{n+2} \\ \text{(OR)} \end{array}$	$6Y_{n+1} + 8Y_n = 0, Y_0 = 1,$	Y ₁ =4. CO	4
	b.	Sup	pose that f is define	d recursively by	f(0) = 2, f(n+1) = 3f(n+1)) +2, Find f(1),f(2),f(3),	f(4) CO	4
10	a.	Exp	lain about tree trave	ersals	(\mathbf{OP})		CO	5
					(OR)			

b. Explain about infix, postfix and prefix

&&&&&&

CO5

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		0		ATMENT OF CC		R SCIENCE	014				
	E	Course Code:	104131	Programme:	B.S	c., Comp. Sci					
		Date:	28.12.2021	Part:			Semester:				
		Duration:	2 Hours	Academic Yea	ar: 202	1-22	Max.Marks:	75			
HEARTHE		Study Compo	nent:	Allied							
		Course Title:	OPERATIO	NS RESEARCH							
				SECTION – A							
Answ	er A	LL the Questions:					(5 X 5 = 25 Mark	(s)			
1.	a.	Discuss about Sci	entific methods in	OR			CO)1			
	h	Explain any OR 6	models with exan	(OR)			C	D1			
2.	a.	Solve by Graphi	Solve by Graphical method Max $Z= 3x_1 + 4x_2$ Subject to $x_1 + x_2 \le 450$, $2x_1 + x_2 \le 600$ and CO2								
		$x_1, x_2 \ge 0$									
	h	Express the follo	wing I DD in Sta	(OR) ndard form and Ma	triv form	May 7- Ave 1	$\mathbf{D}_{\mathbf{v}}$	`			
	D.	Subject to $2x_1 +$	$-3x_{2+}2x_{3} > 6.3x_{1}$	$+4x_2 = 8.6x_1 - 4x_2$	$x_{1} = x_{3} < 10$	and $x_1, x_2 = 4x_1 + 1$	$2x_{2+}0x_{3}$	JL			
3. a. Use Simplex method to solve the LPP Min $Z = 8x_1 - 2x_2$ Subject to $-4x_1 + 2x_2 \le$					to $-4x_1 + 2x_2 \le 1$	$5x_1 - 4x_2 \le 3$ CC)3				
		and $x_1, x_2 \ge 0$									
	L	Use D's Marsalts	1 (lass (last DE	(OR)	Cubicatt			~			
	D.	Use Big-M method and $x_1 x_2 > 0$	od to solve the LPF	$Max Z = 3x_1 + 2x_2$	₂ Subject to	$2x_1 + x_2 \le 2, 32$	$x_1 + 4x_2 \ge 12$ CC	J3			
4.	a.	Find IBFS using	VAM method				CO)			
			DEST	TINATION	I						
				$\begin{array}{c c} \mathbf{B} & \mathbf{C} & \mathbf{D} \\ \hline 20 & 7 & 9 \end{array}$	SUPF	PLY					
			$\frac{1}{2} 21$	<u>20 7 8</u> 16 20 12	<u> </u>						
			38	12 18 9	70						
		I	DEMAND 30	25 35 40							
				(\mathbf{OP})							
	b.	Explain NWCR	procedure	(UK)			CO	04			
5.	a.	Explain Hungar	an algorithm me	thod			CO)5			
				(OR)				~ =			
	b.	Solve the assign	ment problem to	r maximum profit MACHI	NFS		CC)5			
			Р	0	R	S					
		Α	51	53	54	50					
		JOBS <u>B</u>	47	50	48	50					
			49	50	<u>60</u>	61					
			03	04	00	00					
A		II the Orestianer		SECTION -	- B		(5 V 10 50 Marth	- ~)			
6.	er A a.	Discuss about M	ain phases of OR				$(3 \mathbf{A} 10 = 50 \text{ Mark}$	15))1			
~•			r	(OR)				-			
	b.	(i) List out advan	ntages of OR in E	Business and Mana	gement		CO)1			
		(11) Discuss abou	it general method	is of solving OR me	odels						

- 7. a. Apply graphical method to solve the following LPP Max $Z=x_1-2x_2$ subject to $-x_1+2x_2 \le 1$, $6x_1+4x_2 \ge 24$, $0 \le x_1 \le 5$ and $2 \le x_2 \le 4$ and $x_1, x_2 \ge 0$ (OR)
 - **b.** Company manufactures 2 types of printed circuits. The requirements of transistors, resistors **CO2** and capacitors for each type of printed circuits along with other data are given below

	Α	В	Stock Available
Transistors	15	10	180
Resistors	10	20	200
Capacitors	15	20	210
Profit	Rs.5	Rs.8	

use graphical method to How many circuits of each type should company produce from stock to earn maximum profit

- 8. a. Use Big-M method to solve the LPP Min Z= $4x_1 + 3x_2$ Subject to $2x_1 + x_2 \ge 10, -3x_1 + 2x_2 \le 6,$ CO3 $x_1 + x_2 \ge 6$ and $x_1, x_2 \ge 0$
 - **b.** Use Simplex method to solve the LPP Max $Z = 3x_1 + 2x_2 + 5x_3$ Subject to $x_1 + 4x_2 \le 420$, CO3 $3x_1 + 2x_3 \le 460$, $x_1 + 2x_2 + x_3 \le 430$ and $x_1, x_2, x_3 \ge 0$
- 9. a. Find IBFS for the following Transportation Problem

	1	2	3	4	Supply
Ι	21	16	25	13	11
II	17	18	14	23	13
III	32	27	18	41	19
Demand	6	10	12	15	

(**OR**)

b. Find IBFS to get maximum profit

SOURCE		Α	В	С	D	SUPPLY
	1	15	51	42	33	23
	2	80	42	26	81	44
	3	90	40	66	60	33
DEMAND		23	31	16	30	

10. a. Solve the following Travelling Salesman Problem

	ТО					
		Α	В	С	D	
FROM	Α	-	46	16	40	
	В	41	-	50	40	
	С	82	32	-	60	
	D	40	40	36	-	

(**OR**)

b. Solve the following Assignment Problem to earn Maximum Profit

		TERRITORY					
		Α	В	С	D		
SALESMAN	S1	35	27	28	37		
	S2	28	34	29	40		
	S 3	35	24	32	28		
	S4	24	32	25	28		

(OR)

CO4

CO4

CO5

CO5

CO2

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		DEPAR	TMENT OF COMP	PUTER SCIENCE			
	Course Code:	10CT11	Programme:	B.Sc., Comp. Sci	CIA:	III	
	Date:	22.12.2021	Part:	III	Semester:	Ι	
	Duration: 2 Hours		Academic Year:	2021-22	Max.Marks:	75	
HEARTHEAD	Study Compon	ent:	Core				
	Course Title: PROGRAMMING IN C						

SECTION – A

Answ	ver AI	LL the Questions:	(5 X 5 = 25 Marks)
1.	a.	Write a C program for an Electricity board charges the following rates of electric For first hundred units free of cost	city CO1
		(i) For above 100 to 200 units: 1.50 rupees per unit \pm 10 rupees service charge	
		(i) For above 200 to 200 units: 2.50 rupees per unit + 15 rupees service charge (ii) For above 200 to 300 units: 2.50 rupees per unit + 15 rupees service charge	
		Beyond 300 units : 3.50 rupees per unit + 25 rupees service charge	
		(OR)	
	b.	Explain about printf function with example	CO1
2.	a.	Discuss about two and multi-dimentional Array with Example	CO2
		(OR)	
	b.	Discuss about one dimentional Array with Example	CO2
3.	a.	Explain about Function Declaration, Function Definition and Function Call	CO3
		(OR)	
	b.	Write a C program to print a factorial of given number using recursive function	CO3
4.	a.	Write a short notes on structure in C	CO4
		(OR)	
	b.	Explain about Structures within Structures	CO4
5.	a.	Explain about pointers in C	CO5
		(OR)	
	b.	Write about fprintf function with example	CO5
		SECTION – B	
Answ	ver AI	LL the Questions:	(5 X 10 = 50 Marks)
6.	a.	Differentiate while and dowhile loop statements with example	CO1
		(OR)	
	b.	Discuss about C Tokens	C01
7.	a.	Write a C program to addition of 3X3 matrices	CO2
	_	(OR)	
0	b.	Explain in detail string handling functions with example	CO2
8.	a.	Write a short notes on function categories with example in C	CO3
		(OR)	000
0	b.	Write a C Program to passing arrays to Function in C	C03
9.	a.	Differentiate structure and union with example	CO4
	1	(UK)	
10	D.	write a \bigcirc program to get and display / students name and age using structure Discuss shout I/O functions on File	
10.	a.	Discuss about I/O functions on File	005
	h	(UK) Write a short notes on opening and closing a File	005
	D.	while a short notes on opening and closing a rne	05

r		VIVERA	NANDA COLL	EGE, TIRUVEDAK	AM WEST - 62523	4				
		DEPARTMENT OF COMPUTER SCIENCE								
~~~~	~	Course Code:	10CT12	Programme:	B.SC., Comp. Sci	CIA:	III			
		Date:	27.12.2021	Part:	III	Semester:	Ι			
		Duration:	2 Hours	Academic Year:	2021-2022	Max.Marks:	75			
HAND HEARTH	TAU	Study Compon								
		Course Title: DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION								
				SECTION – A						
Ansv	wer A	<b>LL</b> the Ouestions:				(5 X 5 = 25 Mar)	:ks)			
1	a.	Simplify the followi	ing expression X	X + X(Y+Z) + Y(Y+Z)		С	01			
				( <b>OR</b> )						
	b.	Explain SOP (Sum	of Product) and I	POS (Product of Sum) in	n Boolean function	С	01			
2	a.	How will you design	an OR gate	С	02					
	b.	• Write short note on BCD adder.								
3	a.	Explain about D-La	С	03						
	_	(OR)								
	b.	Compare the diagram waveforms.	v its C	03						
4	a.	Deduce the concept	С	04						
	b.	What is bus explain	CO4							
5	a.	Differentiate the hard	wired and multi p	programmed control.		C	05			
	b.	Define cache memory. Explain the mapping process followed in cache memory.								
	~		,	SECTION – B		C	00			
Ansv	wer 2	ALL Questions:			(	(5 X 10 = 50 Mar	:ks)			
6	a.	Simplify the given f	function using K-	-maps		С	01			
		$F(A,B,C,D) = \sum_{i=1}^{n} (0,2,i)$	3,5,7,9,11,13,14)							
		F 1 ' ' 1 / 'I		(OR)		C	01			
7	b.	Explain in detail exc	cess-3 BCD conv	verter.	n OR gata	C	01			
/	ä.	Implement a full-su	U	02						
	b.	Design 16 to 1 mult		С	02					
8	a.	Discuss in detail abo	out the pulse- trig	ggered S-R Flip Flop wi	th necessary diagrams	Č	03			
			1 0	(OR) (OR)	<i>J C</i>					
	b.	Show the operation	of universal shif	t register with neat bloc	k diagram.	С	03			
9	a.	Elucidate the basic f	functional units of	of a computer.		С	04			
				( <b>OR</b> )		~	~ .			
10	b.	Explain the operation	ons of stacks and	queues.		C	04			
10	a.	Explain memory un	C	05						
	b.	What is DMA? Exp	lain the block dia	agram of DMA		C	05			

		VIVEKANA	NDA COLLE	GE, TIRUVEDAKA	M WEST - 625234	ł				
			DEPAR'	TMENT OF COMP	UTER SCIENCE					
Toron	JULI .	Course Code:	10CT31	Programme:	B.Sc., Comp. Sci	CIA:	III			
		Date:	22.12.2021	Part:	III	Semester:	III			
	3	) Duration:	2 Hours	Academic Year:	2021-2022	Max.Marks:	75			
	RIHA	Study Compon	ent: C	ore	J		-			
		<b>Course Title:</b>	COMPUTER	NETWORKS						
		i	1	SECTION A						
Δns	wer	ALL the Questions		SECTION - A		(5 X 5 – 25 Mark	.c)			
1	a	Brief a note on uses of	computer netwo	rks?		$(3 \times 3 = 23 \text{ Mark})$	.s <i>)</i> 1			
-		Difer a note on abes of	computer netwo	(OR)		00	•			
	b.	Explain the types of to	pology in compu	ter networks?		CO	1			
2	a.	Brief a note on fiber of	ptics?			CO	<b>2</b>			
		1	(OR)							
	b.	Brief a note on packet	switching?			СО	2			
3	a.	Elaborate service prov	ide to the networ	k layer.		CO	3			
				(OR)						
	b.	Brief a note on sliding	window protoco	1.		CO	3			
4	a.	Explain the IP address.				CO	4			
				(OR)						
	b.	Difference between TC	CP and UDP			CO	4			
5	a.	Brief a note on E-mail.				CO	5			
			1 • 1	(OR)		<b>CO</b>	_			
	b.	Elaborate the public ke	ey algorithm.	CECTION D		CO	5			
Ang	mor	ALL Questions:		SECTION – B	()	5 V 10 - 50 Mark	a)			
Alls	wer	ALL Questions:	actoristics of OS	Deference model?	(;	$5 \times 10 = 50 \text{ Mark}$	.S) 1			
U	a.	Enumerate on the char		(OR)		CO	T			
	h	Explain about TCP/IP	reference model			CO	1			
7	р. Я.	Explain the Multiplexin	g and types			CO	2			
•			0 210 67960	(OR)		00	-			
	b.	Briefly discuss about F	PSTN.	(011)		CO	2			
8	a.	Elaborate the design is	sues in data link	layer.		CO	3			
		C		(OR)						
	b.	Explain any one mecha	Explain any one mechanism about error detection and error correction methods.				3			
9	a.	Explain the distance ve	ector routing			CO	4			
				(OR)						
	b.	Explain about Transmi	ission Control Pr	otocol.		CO	4			
10	a.	Enumerate about DNS	and WWW.	<b></b>		CO	5			
	_			(OR)			_			
	b.	Brief about Digital Sig	nature.			CO	5			

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			DEPARTM	ENT OF COMPUT	ER SCIENCE		_			
~	$\sim$	Course Code:	10CT32	Programme:	B.Sc., Comp. Sci	CIA:	III			
		Date:	27.12.2021	Part:	III	Semester:	III			
		Duration:	2 Hours	Academic Year:	2021-22	Max.Marks:	75			
HANDHE	RIHEAD	Study Compon	ent:	Core						
		<b>Course Title:</b>	COMPUTER	GRAPHICS						
				SECTION – A						
Ansv	ver AL	L the Questions:				(5 X 5 = 25 Ma	rks)			
1.	a.	Brief a note on the	Refresh CRT with	ith a neat diagram		(	C <b>O</b> 1			
				( <b>OR</b> )						
_	b.	Distinguish the cha	racteristics of er	nissive and non-emiss	ive displays?	(	C <b>O</b> 1			
2.	<b>a</b> .	Write a note on the	characteristics of	of line attributes?		(	C <b>O2</b>			
	h	Explain the DDA 1	ine drawing algo	( <b>UK</b> )			ററാ			
3.	и. а.	Discuss on Midpoir	nt circle algorith	m?			CO2			
				( <b>OR</b> )						
	b.	Write a note on transformation functions?								
4.	a.	Describe 2D viewin	ng transformatio	n pipeline?			C <b>O</b> 4			
		(OR)								
	b.	Illustrate on Line c	on Line clipping?							
5.	<b>a</b> .	Differentiate parall	el and perspectiv	ve projection?			C <b>O5</b>			
	h	Evolain about Den	th Cueing and Su	( <b>UK</b> )			005			
	υ.		in Cucing and St	inace rendering:		·	205			
				SECTION – B						
Ansv	ver AL	L the Questions:	1	· · · ·		$(5 \times 10 = 50 \text{ Ma})$	rks)			
6.	a.	Explain in detail the	e applications of	computer graphics in	various fields in the in	idustry? C	01			
	h.	Enumerate on types	s of Video displa	v devices?		C	:01			
7.	a.	Elucidate on the cha	aracteristics of E	Bundled attributes?		C	202			
				( <b>OR</b> )						
	b.	Explain in detail An	rea filling attribu	tes and character attril	butes?	C	02			
8.	a.	Illustrate the types of	of 2D transforma	ation techniques in gra	phics?	C	03			
	h	Evoluin in detail rad	ster methods for	(UK) transformations?		C	' <b>M</b> 3			
9.	ม. ล	Explain clipping an	d bring out any '	5 types of Clipping?			:03 :04			
		Zupinin onpping un	- oring out uny .	(OR)		C				
	b.	Explain in detail Inj	put functions in	graphics?		C	<b>'04</b>			
10.	a.	Explain 3D Reflect	ion and Shear tra	ansformation?		C	:05			
				( <b>OR</b> )						
	b.	Explain in detail int	eractive Picture	construction technique	es?	C	05			

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			DEPARTMENT OF COMPUTER SCIENCE								
Toron	TANK	ET.	<b>Course Code:</b>	10CT51	Programme:	B.Sc., Comp. Sci	CIA:	III			
	影		Date:	23.12.2021	Part:	III	Semester:	V			
	6		Duration:	2 Hours	Academic Year:	2021-22	Max.Marks:	75			
HAND	ART	A	Study Compor	nent:	Core						
			<b>Course Title:</b>	PYTHON PR	ROGRAMMING						
					SECTION – A						
Ans	wer	ALL	the Questions:			(!	5 X 5 = 25 Mark	s)			
1	a.	Hov	v to create a List wi	th example prog	ram.		CO	)1			
		*** *		•.1 1	(OR)		CO	. 1			
2	b.	Wri Evn	te a FOR statement	with example.	wthon			11 12			
4	а.	Елр		n argument in p	(OR)		CO	12			
	b.	Hov	v to create user defi	ne function in p	ython		CO	02			
3	a.	Wri	te a while Statemen	t in python			CO	13			
					(OR)		~~				
4	b.	Wri	te a python program	in find a duplic	cate number in list.		CO	)3 M			
4	a.	vv f1	te a FOR loop with	example.	(OR)		CO	/4			
	b.	Exp	lain String Slicing i	n python with e	xample		CO	)4			
5	a.	Exp	lain about pickling	in python with e	example		CO	)5			
		_			(OR)						
	b.	Wri	te a Sparse matrices	s in python			CO	15			
					SECTION – B						
Ans	wer	ALL	Questions:			(5	X 10 = 50 Mark	is)			
6	a.	Wri	te a python program	n to print prime	numbers less than 20. $(OP)$		CO	1			
	h	Exn	lain the looping stat	tement with exa	(OK)		CO	1			
7	а.	Con	struct python progr	am using any 6	math function.		CO	)2			
-			r,	8 · J	(OR)			_			
	b.	Exp	lain Recursion in P	ython with exam	ple		CO	2			
8	a.	Exp	lain Python tables v	vith example			CO	)3			
	1.	Erre	lain String Common		(OR)		<b>CO</b>				
0	D.	Exp	struct the List oper	lson	ith example			із М			
7	a.	COI	server the List opera	ator in python w	(OR)						
	b.	Exp	lain List and Tuples	5	()		CO	)4			
10	a.	Wri	te a python program	n using matrix a	ddition and multiplicati	on	CO	)5			
					(OR)						
	b.	Exp	lain Comment files	in python			CO	15			

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DEPARTMENT OF COM						MPUTER SCIENCE			
~	$\mathcal{T}$	~	Course Code:	10CT52	Programme:	B.Sc., Comp. Sci	CIA:	III	
			Date:	24.12.21	Part:	III	Semester:	v	
			Duration:	2 Hours	Academic Year:	2021-22	Max.Marks:	75	
HAND	HEART	IEAD	Study Compon	ent:	Core	t			
			<b>Course Title:</b>	JAVA PR	OGRAMMING				
				•	SECTION - A				
Ans	wer	ALL f	he Questions.		SECTION - A		(5 X 5 – 25 Mar	ks)	
1	a.	Write	e short notes on IVN	I IDK IRE			$(5 \times 5 - 25 \text{ Mar})$	<b>D</b> 1	
-	u	****		1,0 2 11,0 1 12	(OR)				
	b.	Com	pare the characterist	ics of C.C++	and JAVA		C	D1	
2	a.	What	t is class, objects and	d methods wi	th example?		C	<b>D2</b>	
					(OR)				
	b.	List a	and discuss various t	types of Inhe	ritance	CO2			
3	a.	Expla	ain in detail about Pa	ackage		CO3			
					(OR)				
	b.	Write	e short notes on imp	lementation of	of Interface		CO	<b>J3</b>	
4	a.	Write	e short notes on Erro	or and its typ	es		CO	<b>)4</b>	
					(OR)				
	b.	Write	e short notes about T	Threads			CO	<b>)4</b>	
5	a.	Expla	in in detail about RM	Ι			CO	)5	
	_				(OR)				
	b.	Expla	ain briefly about Ser	vlets.			CO	)5	
					SECTION – B			• 、	
Ans	wer		Questions:		ODG		$(5 \times 10 = 50 \text{ Mar})$	ks)	
0	a.	Disci	uss about the basic c	concepts of O	(OD)		CO	<b>J</b> I	
	h	Eval	ain the looning state	mont with an	(UK)		C	71	
7	IJ. 0	Expla	ain the concept of co	ment with ex	ample			)1 )2	
/	a.	стури	an the concept of C		$(\mathbf{OR})$				
	h	Build	the Student Mark 1	ist using Sing	le Inheritance		C	72	
8	и. я	Disci	iss in detail about p	ackage	,ie inneritance			72	
U		1000	ass in actual about pe	uenuge.	(OR)				
	b.	Discu	uss in detail about Ir	nterface			C	03	
9	a.	Expl	ain the life cycle of	Thread			C	04	
-		I	· · · <b>·</b> · · · · · · · · · · · · · · ·		(OR)				
	b.	Expla	ain about Thread Pri	iority	` '		CO	<b>)</b> 4	
10	a.	Discu	uss in detail about JS	SP			CO	05	
					(OR)				
	b.	Expla	ain the life cycle of A	Applet			CO	)5	

		VIVEK	ANANDA COL DEPA	LEGE, TIRUVEDAP RTMENT OF COMP	XAM WEST - 62523 PUTER SCIENCE	84		
-		Course Code:	10CT53	Programme:	B.Sc., Comp. Sci	CIA:	III	
	副	Date:	27.12.2021	Part:	III	Semester:	V	
		Duration:	2 Hours	Academic Year:	2021-22	Max. Marks:	75	
HANDHEARTH	Â	Study Compo	nent: Core	• •				
		<b>Course Title:</b>	SOFTWARE	ENGINEERING				
				SECTION – A				
Answ	ver A	LL the Questions:				(5 X 5 = 25 Marl	ks)	
1.	a.	Brief a note on	various categorie	es of software?		C	01	
				( <b>OR</b> )				
	b.	Discuss briefly	on RAD process	model?		С	01	
2.	a.	Write a note on	the characteristi	cs of Software Requiren	nent Specification docu	ment? Co	02	
	b.	Distinguish between Functional and Non-functional requirements?						
3.	a.	Elucidate on Tr	С	03				
				( <b>OR</b> )				
	b.	Write a note on	С	03				
4.	a.	Distinguish between Unit testing and Integration testing?						
	h	Explain the art	of debugging?	(OK)		C	04	
5.	a.	Discuss briefly	C	05				
		5		( <b>OR</b> )		_		
	b.	. Classify and bri	ief a note on type	es of risk in a Software F	Project?	C	05	
				SECTION – B				
Answ	ver A	LL the Questions:				(5 X 10 = 50 Marl	ks)	
6.	a.	Explain Cascadi	ing process mode	el in software engineerir	ng?	CC	)1	
	b.	Enumerate on ty	vpes of prototypi	ng and its process of sof	ftware development?	CC	)1	
7.	a.	Explain in detai	CC	)2				
		Ĩ	1	( <b>OR</b> )				
	b.	Explain the elem	Explain the elements in an Analysis model?					
8.	a.	Illustrate with su	uitable examples	coupling and cohesion?		CC	)3	
	h	Enumerate on tr	mag of design as	(OR)	anginaging?	CC	12	
9	D. 9	Enumerate on ty	pes of Black box to	esting methods?	engmeering?		)5 )4	
۶.	a.	Explain the type	5 OI DILOR OOA U	(OR)			, 1	
	b.	Explain the type	es of White box t	esting methods?		CC	)4	
10.	a.	Explain COCO	MO model of cos	st estimation?		CC	)5	
	_			( <b>OR</b> )		_		
	b.	Explain in detail	l Risk manageme	ent and mitigation in sof	tware project managem	ent? CC	)5	