Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

Class Test – I Session - July – Dec. 2023 Month - November
Sem - 3rd CSE and AIML Subject - Mathematics III Code - B000311(014)/B109311(014)

Time Allowed: 2 hrs Max Marks: 40

Note: - All questions are compulsory.

5	4		2		Q.N.
Solve $r+s-6l = y\cos x$ OR $(D^2 - DD^1 - 2D^2)z = (y-1)e^x$	Solve (i) $z = y^2 + 2f\left(\frac{1}{x} + \log y\right)$ (ii) $px(z - 2y^2) + qy(z - y^2 - 2x^3) = z(z - y^2 - 2x^3)$	Apply convolution theorem to prove that $L^{-1}\left\{\frac{8}{(s^2+1)^3}\right\} = (3-t^2)\sin t - 3t\cos t$	Solve $ty + 2y + ty = \cos t$, $y(0) = 1$ OR $\frac{d^2x}{dt^2} + 9x = \cos 2t$, when $x(0) = 1$, $x(\pi/2) = -1$.	Calculate (i) $L\left(\frac{1-\cos t}{t^2}\right)$ (ii) $I = \int_0^{\infty} t^2 e^{-2t} \cdot \sin t dt$	Questions
[8]	[2+6]	[8]	[8]	[4+4]	Marks
Apply	Apply	Apply	Apply	Apply	Levels of Bloom's taxonomy
CO2	CO2	8	8	01	co

Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering

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8	[2+6]	8	8	[4+4]	Marks
Apply	Apply	Apply	Apply	Apply	Bloom's taxonomy
e S	CO	8	COI	8	CO

SSIPMT

Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science and Engineering

Class Test - I Session-July-December, 2023 Month-November

Sem- CSE 3rd (Sec- A, B & C) Subject- Data structure & Algorithms Code- B022312(022)
Time Allowed: 2 hrs

Max Marks: 40

Note: - All questions are compulsory and carries equal marks..

				The second secon	
Q5	Q4	Q	Q2	QI	Q.N.
Explain insertion and deletion operation of queue and also write algorithm for both operations.	Convert following infix expression into postfix using stack method algorithm. A*(B+C)+(B/D)*A+Z*U	Implement an algorithm to perform following operation in link list. i) Delete the node at end of doubly link list. ii) Insert a node at middle in singly link list.	Describe sparse matrix? Explain its representation with suitable example	Calculate the address of X[0,30] in 2D array X[-2020,1035] stored in column major order in the main memory. Assume the base address to be 500 and each elements requires I words of storage. Also explain the 3D representation of array with suitable example.	Questions
8	®	. 8	[8]	8	Marks
Understanding	Applying	Applying	Understanding	Applying	Levels of Bloom's taxonomy
C02	C02	COI	C01	COI	Cos



Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science and Engineering

Class Test - I Session- July-December, 2023 Month- November

Sem-CSE 3rd (Sec-A, B & C) Subject-Data structure & Algorithms Code-B022312(022)
Time Allowed: 2 hrs

Max Marks: 40

Note: - All questions are compulsory and carries equal marks..

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2	8	Q2	2	Q.N.
Convert following infix expression into postfix using stack method algorithm. A*(B+C)+(B/D)*A+Z*U	Implement an algorithm to perform following operation in link list. i) Delete the node at end of doubly link list. ii) Insert a node at middle in singly link list.	Describe sparse matrix? Explain its representation with suitable example	Calculate the address of X[0,30] in 2D array X[-2020,1035] stored in column major order in the main memory. Assume the base address to be 500 and each elements requires 1 words of storage. Also explain the 3D representation of array with suitable example.	Questions
[8]	[8]	[8]	88	Marks
Applying	Applying	Understanding	Applying	Levels of Bloom's taxonomy
C02	C01	CO1	COI	Cos
	Convert following infix expression into postfix using stack method algorithm. [8] Applying A*(B+C)+(B/D)*A+Z*U	Implement an algorithm to perform following operation in link list. i) Delete the node at end of doubly link list. ii) Insert a node at middle in singly link list. Convert following infix expression into postfix using stack method algorithm. A*(B+C)+(B/D)*A+Z*U [8] Applying	Describe sparse matrix? Explain its representation with suitable example Implement an algorithm to perform following operation in link list. i) Delete the node at end of doubly link list. ii) Insert a node at middle in singly link list. Convert following infix expression into postfix using stack method algorithm. A*(B+C)+(B/D)*A+Z*U Understanding [8] Applying	Calculate the address of X[0,30] in 2D array X[- 2020,1035] stored in column major order in the main memory. Assume the base address to be 500 and each elements requires I words of storage. Also explain the 3D representation of array with suitable example. Describe sparse matrix? Explain its representation with suitable example Implement an algorithm to perform following operation in link list. i) Delete the node at end of doubly link list. ii) Insert a node at middle in singly link list. Convert following infix expression into postfix using stack method algorithm. Convert following information [8] Applying A*(B+C)+(B/D)*A+Z*U

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science and Engineering

Class Test - I Session-July - Dec, 2023 Month-Nov

Semester- CSE 3rd [A, B & C]

Subject-Principles of Programming Languages, Code-B022313(022)

Time Allowed: 2 hrs.

Max Marks: 40

Note: -Al	Note: -All questions are compulsory.			
Q.N.	Questions	Marks	Levels of Bloom's	COs
			taxonomy	
	Discuss Pseudo Code and Flow			
A.	Chart by giving examples.	[8]	Understand	CO1
В.	Describe Modules and Modularization Criteria	<u>8</u>	Understand	C01
And the state of t				
C.	Describe data flow diagram by giving example.	[8]	Understand	CO1
·	Illustrate different types of		•	
D.	programming methodologies.	<u></u>	Apply	CO2
i'n	Summarize factors influencing the evolution of programming languages.	[8]	Understand	C02
	languages.	AAV suureetakkakkakkuusiinin kakkuusiinin kakkuusiin kakkuusiin kakkuusiin kakkuusiin kakkuusiin kakkuusiin vu		CONTRACTOR OF TRACTOR AND TRAC

Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science and Engineering

Class Test - I Session-July - Dec, 2023 Month-Nov

Subject-Principles of Programming Languages, Code-B022313(022) Semester- CSE 3rd [A, B & C]

Time Allowed: 2 hrs. Max Marks: 40

ίω	D. 1	C	B.	A. I	Q.N.	Note: -All q
Summarize factors influencing the evolution of programming languages.	Illustrate different types of programming methodologies.	Describe Data flow diagram by giving example.	Describe Modules and Modularization Criteria.	Discuss Pseudo Code and Flow Chart by giving examples.	Questions	Note: -All questions are compulsory.
[8]	[8]	[8]	[8]	[8]	Marks	
Understand	Apply	Understand	Understand	Understand	Levels of Bloom's taxonomy	
C02	C02	C01	CO1	C01	cos	

SSIPMT

Shri Shankaracharya Institute of Professional Management & Technology Department of Electronics and Telecommunication Engineering Class Test - 1 Session-July-Dec, 2023 Month- November Sem-CSE 3rd (A,B,C) Subject- Digital Electronics: B022314 (022)

Time Allowed: 2 hrs Max Marks: 40

Note: - Attempt Each question from each part.

Part-1 carries 2 marks for each Question. Part-2 carry 4 mark for each question, part-3 carry 10 marks.

Þ		ŢĐ	(T)	D.	Ç	В.	Þ		C.	В.	>		Q. NO.
Minimize the following expression using Quine McCluskey Method & Draw the Logic Diagram $f(A,B,C,D) = \sum m (2,3,4,8,10,11) + d (0,13,15)$	Part-3	Implement the following expression using NAND-NAND Logic $Y=\Sigma$ m (0,2,6)	Reduce the following function using K-map technique& draw the logic diagram $f(A,B,C,D) = \Pi M (0,3,4,7,8,10,12,14) + d(2,6)$	Implement 2 input TTL- NAND Gate & Discuss its operation.	Implement 2 input DTL NAND Gate & Discuss its operation.	Implement 2 input RTL NOR Gate & Discuss its operation.	Find & correct the error of a Seven bit even parity hamming code. The received is 1100110.	Part-2	Explain Noise Margin & Figure of Merit of Digital ICs.	Convert the Decimal number 46 to GRAY Code	Obtain the ASCII Code for the word " DELD"	Part-1	Questions Lev
10		4	4	4	4	4	4		2	2	2		Marks
Apply		Apply	Apply	Apply	Apply	Apply	Apply		Understanding	Apply	Understanding		Levels of Bloom's taxonomy
CO1		CO1	CO1	CO2	CO2	CO2	601		CO2	CO1	103		COs

""The day you take complete responsibility for yourself, the day you stop making any excuse, that's the day you start to the top."

— O. J. Simpson

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Shri Shankaracharya Institute of Professional Management & Technology
Department of Electronics and Telecommunication Engineering
Class Test – 1 Session-July-Dec, 2023 Month- November
Sem-CSE 3rd (A,B,C) Subject- Digital Electronics: B022314 (022)
Time Allowed: 2 hrs Max Marks: 40

Note: - Attempt Each question from each part.

Part-1 carries 2 marks for each Question. Part-2 carry 4 mark for each question, part-3 carry 10 marks.

	Apply Apply Apply Apply Apply Apply	0 4 4 4 4	Implement 2 input RTL NOR Gate & Discuss its operation. Implement 2 input DTL NAND Gate & Discuss its operation. Implement 2 input TTL- NAND Gate & Discuss its operation. Reduce the following function using K-map technique& draw the logic diagram f(A,B,C,D) = II M (0,3,4,7,8,10,12,14) + d (2,6) Implement the following expression using NAND-NAND Logic Y= \(\Sigma\) m (0,2,6) Minimize the following expression using Quine McCluskey Method & Draw the Logic Diagram f(A,B,C,D) = \(\Sigma\) m (2,3,4,8,10,11) + d (0,13,15)	> in D O B
CO1 CO2	Apply Understanding Apply	4 2 2	Convert the Decimal number 46 to GRAY Code Explain Noise Margin & Figure of Merit of Digital ICs. Part-2 Find & correct the error of a Seven bit even parity hamming code. The received is 1100110.	y C m
COS	Levels of Bloom's taxonomy	Marks	Questions Part-1 Obtain the ASCII Code for the word "DELD"	Q. NO.

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— 0.1. Simpson

Shri Shankaracharya Institute of Professional Management & Technology Department of Computer Science & Engineering Class Test - I Session- July - Dec, 2023 Month-Nov

Time Allowed: 2 hrs

Sem- CSE 3rd[A,B,C]Subject-Operating SystemCode-B022315(022) Max Marks: 40

N.O	Q.N. Questions	Marks	Levels of Bloom's	cos
	Discuss in details the Architecture of Unix operating system.		and the second s	
P.	OR	[8]	Understanding	100
	Describe evolution of operating system.			
B.	Define operating system and list out various services provided by operating System and explain any two of them.	<u>®</u>	Understanding	3
Ç	With neat diagram describe Process Control Block (PCB)	8	Understanding	C02
D.	Define Process and Explain different states of a process, with a neat diagram	[8]	Remembering	C02
	Consider the processes PI, P2, P3, P4 given in the below table, arrives for execution in the same order, with given Arrival Time and Burst Time.	n.) re	7 A. C.	
in in	Calculate the average waiting time and average turnaround time using First Come First Serve (FCFS).	<u>~</u>	Apply	3
ţ	PROCESS ARRIVAL BURST TIME	3	Appry	9
	P2 1 4 P3 2 9			

SSIPMT Shri Shankaracharya Institute of Professional Management & Technology

Department of Computer Science & Engineering Class Test - I Session-July - Dec, 2023 Month-Nov

Time Allowed: 2 hrs Sem- CSE 3rd[A,B,C]Subject-Operating SystemCode-B022315(022) Max Marks: 40

Note: -	Note: - All questions is Compulsory		Control of the Contro		Programme and the second
Ø.N.		Questions		Marks	
	Discuss in details the Architecture of Unix operating system.	Architecture of	Unix operating		
Þ		OR		<u>®</u>	
	Describe evolution of operating system.	f operating syste	Ŗ		
В.	Define operating system and list out various services provided by operating System and explain any two of them.	stem and list out ng System and ex	various services plain any two of	[8]	
C.	With neat diagram describe Process Control Block (PCB)	describe Proces	s Control Block		_
D.	Define Process and Explain process, with a neat diagram	d Explain different diagram	rent states of a	<u>@</u>	ت
	Consider the processes PI, P2, P3, P4 given in the below table, arrives for execution in the same order, with given Arrival Time and Burst Time.	ses PI, P2, P3, for execution in ime and Burst Ti	P4 given in the the same order, me.		
ĹΠ	Calculate the average waiting time and average turnaround time using First Come First Serve (FCFS).	age waiting time g First Come First S	ne and average st Serve (FCFS).	_	∞
1)	PROCESS	ARRIVAL TIME	BURST TIME	7	
	Pl	0	8		
	P2	1	4		
	P3	2	9		
	P4	ω	5		