CSC303.2	Students will be able to handle various operations ... deletion and traversals on various data structures.

data structures

	use data structures to solve engineering problems and evaluate their so

Q.N.	Question	Mark	
1.a	Explain different types of data structures with example	05	CSC
	OR		
1.b	What are the various operations possible on data structures?	05	CSC
2.a	Write a program in 'C' for implementing Stack using array.	05	CSC CSC
	OR		
2.b	Write a program in 'C' for implementing Priority Queue using array.	05	CSC CSC
3.a	Justify the following statement for Circular Queue **"First index comes right after the last index assuming indices are attached in a circular manner"**	05	CSC CSC
	OR		
3.b	Justify the following statement for Stack ADT **"Stack ADT can be used to convert and hence evaluate postfix expression"**	05	CSC CSC
4.a	Differentiate between Array and Linked List.	05	CSC
	OR		
4.b	Explain different ways of representation of Linked List.	05	CSC

maths

Q.N.	Question	Mark	CO
1.a	*Find the laplace transform of the function.* $f(t) = \frac{cos2t\ sint}{e^t}$	05	CEC30
	OR		
1.b	*Find the laplace transform of the function* $f(t) = cosht \int_0^t e^u sinhu\ du$	05	CEC30
2.a	*Find the laplace transform of the function* $f(t) = \int_0^\infty e^{-t}\left(t\sqrt{1+sint}\right)dt$	05	CEC30
	OR		
2.b	*Find the laplace transform of the function* $f(t) = e^{-4t} \int_0^t u\ sin3u\ du$	05	CEC30

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Department of Artificial Intelligence & Data Science
Internal Assessment-I
Academic Year: 2022-23 Semester: Odd

3.a	*Find the Inverse Laplace Transform of the function* $\varphi(s) = \frac{s+2}{s^2-2s+17}$	05	CEC301.2	L3
	OR			
3.b	*Find the inverse laplace transform of the function* $\varphi(s) = \frac{2s-1}{s^2+4s+29}$	05	CEC301.2	L3
4.a	*Find the Inverse laplace transform of the function* $\varphi(s) = \frac{s+2}{s^2(s+3)}$	05	CEC301.2	L4
	OR			
4.b	*Find the Inverse laplace transform of the function using convolution theorem.* $\varphi(s) = \frac{s^2}{(s^2+a^2)(s^2+b^2)}$	05	CEC301.2	L4

computer graphics

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CSC305.2	Demonstrate various algorithms for basic graphics primitives.
CSC305.3	Apply 2-D geometric transformations on graphical objects.
CSC305.4	Use various Clipping algorithms on graphical objects.
CSC305.5	Explore 3-D geometric transformations, curve representation techniques and projections methods.
CSC305.6	Explain visible surface detection techniques and Animation.

Q.N.	Question	Mark	CO
1.a	Differentiate between random scan and raster scan.	05	CSC305.1
	OR		
1.b	Compare 2 types of color CRT monitors.	05	CSC305.1
2.a	Draw and explain the working of the shadow mask method.	05	CSC305.1
	OR		
2.b	Explain antialiasing techniques.	05	CSC305.1
3.a	Write DDA algorithm. Rasterize a line using DDA algorithm having endpoints (2,3) to (8,10).	05	CSC305.2
	OR		
3.b	Rasterize a line using Bresenham's algorithm having endpoints (4, 5) to (10,10).	05	CSC305.2
4.a	Rasterize a circle with a radius 7 and center at the origin. Plot the obtained points in a graph.	05	CSC305.2
	OR		
4.b	Rasterize an ellipse having rx=3 and ry=5. Plot the obtained points in a graph.	05	CS305.2

CSC 304.1	To learn differ...
CSC 304.2	
CSC 304.3	
CSC 304.4	
CSC 304.5	
CSC 304.6	To describe the concepts of parallel processing and different Buses.

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DLCOA

Q.N.	Question	Mark	
1.a	1. Convert Decimal (85.63) to its equivalent Binary no.& 2. Convert Decimal (3000.45) to its equivalent Octal no.	05	CS
	OR		
1.b	1. Convert Decimal (2003.31) to its equivalent Hexadecimal number and 2. Convert Decimal (0.42) to its equivalent Binary number	05	CS
2.a	Draw and explain truth table of various logic gates	05	CS
	OR		
2.b	Draw and explain basic Von-Neumann model.	05	CS
3.a	1. Convert Binary (1 1 0 1 0 0 1 0) into its equivalent Octal number and 2. Binary (1010 1111 1011 0010) into its equivalent hex 3. Also obtain XS-3 code for $(428)_{10}$	05	CS
	OR		
3.b	Subtract using 2's complement 1. $(52)_{10} - (65)_{10}$ and 2. $(52)_{10} - (-18)_{10}$ 3. Convert decimal 17 and 24 to gray code.	05	CS
4.a	Draw flowchart of Booth's algorithm and evaluate (-3) x (5) using the same.	05	CS
	OR		
4.b	Draw flowchart of restoring algorithm and evaluate (5) / (3)		CS

DSGT

Q.N.	Question	Mark	CO
1.a	Solve the associative law Using Truth Table and show their Equivalence $(p \wedge q) \wedge r = p \wedge (q \wedge r)$	05	CSC302.1
	OR		
1.b	Construct the truth table and check if the following statement is tautology $(p \rightarrow q) \leftrightarrow (\sim Q \rightarrow \sim P)$	05	CSC302.1
2.a	Prove $\sim(p \vee (\sim p \wedge q))$ and $\sim p \wedge \sim q$ are logically equivalent by developing a series of logical equivalences	05	CSC302.1
	OR		
2.b	Prove using the Mathematical Induction $2 + 5 + 8 + \ldots\ldots + (3n-1) = n(3n+1)/2$	05	CSC302.1
3.a	Find Transitive Closure of R represented by M_R as follows using Warshalls Algorithm set {a,b,c,d} M_R =	05	CSC302.2
	OR		
3.b	Find the Relation Determined by the digraph and give its Matrix A = {1,2,3,4,5} R = {(1,2), (2,2), (2,3), (3,4), (4,4),(5,1),(5,4) }	05	CSC302.2

0	1	0	1
1	0	1	0
1	0	0	0
0	0	0	0

4.a	Consider the Set A = {1,4,7,13} and R={(1,4),(4,7),(7,4),(1,13)} Find out the Transitive closure of R using Warshall Algorithm	05	CSC302.2	L2
	OR			
4.b	Let A = {a,b,c,d,e,f,g,h} consider the following subsets A A1 = {a,b,c,d} ,A2 ={a,c,e,g,h} A3 = { a,c,e,g} A4 = {b,d} A5 = {f,h} Determine whether each of the following is partition of A or Not Justify your Answer i) {A1,A2} ii) {A3,A4,A5}	05	CSC302.2	L2