Printed Pages: Mid Semester Test-II UID No: 100 81

Academic year Semester 2023 – 2024

Program Name/Code: BE-CS-BS
Semester: 2nd
Subject Code: 23CSH-105
Subject Title: DATA STRUCTURE AND ALGORITHMS

Time: 1 Hour **Maximum Marks: 20**

Instructions: Attempt all questions

Q. No	Statement	CO mapping
	Section A 5 x 2 = 10 marks	
1	Differentiate between stack and queue data structure.	CO1
2	Specify the use of a header node in a header linked list	CO1
3	State the concept of doubly linked list with example.	CO1
4	Convert the infix (a+b) *(c+d)/f into prefix expression	CO2
5	Why is stack known as LIFO? Write algorithm of PUSH operation on Stack.	CO3
	Section B 2 x 5 = 10 marks	
6	Mention differences between circular linked list and singly link list. List the applications of each type of list.	CO3
7	State Circular Queue and Priority Queue? Write an algorithm to insert and delete an element from a Circular Queue.	CO2

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Academic year Semester 2023 – 2024

Program Name/Code: BE-CS-BS
Semester: 2nd
Subject Code: 23PCH-103
Subject Title: Business Communication and Value Science-II
Time: 1 Hour **Maximum Marks: 20**

Instructions: Attempt all questions

Q. No	Statement	CO mapping
	Section A 5 x 2 = 10 marks	
1	What is the difference between an organization's vision and mission?	CO5
2	Is there any difference between Salutation and Complimentary Closing?	CO5
3	What are some key elements that should be included in an effective meeting agenda?	CO3
4	How can conference calls and video conferences lead to more efficient meetings?	CO3
5	Fill in the blanks with correct options: 1. Sharon_____ to meet this tutor by Monday. (need/needs) 2. This singer, along with a few others, _____ the harmonica on stage. (play/plays) 3. Sandals and towels _____ essential gear for a trip to the beach. (is/are) 4. Either Cassie or Marie _____ the employees this afternoon.(pays/pay)	CO3
	Section B 2 x 5 = 10 marks	
6	Why should organisations incorporate Values? How can aligning the values with the mission statement help an organistation to achieve its goals?	CO5
7	As the office manager, draft a memorandum to all staff members informing them about the implementation of a new policy regarding office cleanliness and organization. Outline the key points of the policy, expectations from employees, and any consequences for non-compliance.	CO5

Printed Pages: **Mid Semester Test-II** **UID No:** .....
Academic year Semester 2023 – 2024

Program Name/Code: Bachelor of Engineering
Semester: 2nd
Subject Code: 23SMT-128
Subject Title: Statistical Methods

Time: 1 Hour **Maximum Marks: 20**

Instructions: Attempt all questions
Scientific Calculator is allowed

Q. No	Statement	CO mapping
	Section A 5 x 2 = 10 marks	
1	Write down working rule of a straight line in curve fitting.	CO2
2	Calculate mean from the following data Marks 0-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 No. of students 5 6 11 21 35 30 22 18	CO2
3	Fit a straight line y=a+bx into the given data: (x,y):(5,12)(10,13)(15,14)(20,15)(25,16).	CO2
4	325 men out of 600 men chosen from a big city were found to be smokers. Does this information support the conclusion that the majority of men in the city are smokers.	CO2
5	A random sample of size 16 has 69 as mean. The sum of squares of the derivation from mean 130. Can this sample be regarded as taken from the population having 50 as mean?	CO3
	Section B 2 x 5 = 10 marks	
6	A sample of 20 items has a mean 42 units and S.D 5 units. Test the hypothesis that it is a random sample from a normal population with mean 45 units.	CO3
7	A manufacturer claims that only 4% of his products supplied by him are defective. A random sample of 600 products contained 36 defectives. Test the claim of the manufacturer.	CO3

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Academic year Semester 2023 – 2024

Program Name/Code: Bachelor of Engineering
Semester: 2nd
Subject Code: 23SMT-127
Subject Title: Linear Algebra

Time: 1 Hour **Maximum Marks: 20**

Instructions: Attempt all questions

Q. No	Statement	CO mapping
	Section A 5 x 2 = 10 marks	
1	Write the vector(3,2,1) as a linear combination of standard basis of R^3.	CO2
2	Write any five properties of the vector space.	CO1
3	Define inner product space.	CO1
4	**Check if the following is Linear Transformation or not** $T(x, y) = (x^3, y^3)$	CO2
5	**Let T: $V_3(R) \to V_2(R)$ and H: $V_3(R) \to V_2(R)$ defined by** **$T(x, y, z) = (3x, y + z)$ and $H(x, y, z) = (2x - y, y)$** **Find T+H, 4T-5H, TH, HT**	CO3
	Section B 2 x 5 = 10 marks	
6	Find a Linear Transformation T(x, y, z) where $T: V_3(R) \to V(R)$ such that $T(1, 1, 1)=3$ $T(1, 1, 0)=4$ $T(1, 0, 0)=2$	CO4
7	Find the basis of the following of linear equations $x + 2y - 2z + 2s - t = 0$ $x + 2y - z + 3s - 2t = 0$ $2x + 4y - 7z + s + t = 0$	CO5

MAX-T A x B = T

Printed Pages: Mid Semester Test-II UID No: 10681
Academic year Semester 2023 – 2024

Program Name/Code: BE-CSE (CS&BS)
Semester: 2nd
Subject Code: 23CST-106
Subject Title: Fundamentals of Economics

Time: 1 Hour Maximum Marks: 20
Instructions: Attempt all questions

Q. No	Statement	CO mapping
	Section A 5 x 2 = 10 marks	
1	Demystify the concept of producer equilibrium.	CO2
2	Exemplify the concept of variable cost.	CO2
3	Discuss the calculation of AFC and AVC.	CO3
4	Elucidate the concept of cost.	CO3
5	Discuss the differentiation between total production and marginal production.	CO3
	Section B 2 x 5 = 10 marks	
6	Every administration has focused on GDP while developing policies for the country. Why does India's Gross Domestic Product (GDP) fall short of accurately representing the well-being of its citizens?	CO4
7	Explicate the meaning of national income by discussing its inclusions.	CO4

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Academic year Semester 2023 – 2024

Program Name/Code: BE-CSE-BS-CS
Semester: 2nd
Subject Code: 23ECH-104
Subject Title: Principles of Electronics

Time: 1 Hour Maximum Marks: 20
Instructions: Attempt all questions

Q. No	Statement	CO mapping
	Section A 5 x 2 = 10 marks	
1	Differentiate between PNP and NPN transistor with their symbolic presentation.	CO3
2	Explain the role of the collector in a bipolar junction transistor (BJT).	CO2
3	Discuss what happens to the depletion region width in a PNP junction when a forward bias is applied?	CO2
4	Describe the purpose of biasing in a BJT circuit, and how does it affect transistor operation?	CO4
5	Differentiate between depletion mode and enhancement mode of FET.	CO4
	Section B 2 x 5 = 10 marks	
6	Discuss the significance of the arrow-head in the transistor symbol.	CO1
7	Discuss the applications of MOSFET with its advantages and disadvantages.	CO3