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1B3N25355 (Pages : 2) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester B.Sc Degree Examination, November 2025

CSC3CJ201– Software Project Management

(FYUGP 2024 Admission onwards)

Time: 2 hours Max. Marks : 70

PART – A

All questions can be attended.

Each question carries **Three** mark.

Ceiling -24 Marks

		COs	Knowledge Level(KL)	Marks
1	Define Software Engineering and explain how it differs from traditional engineering.	1	U	3
2	What is agility in software development? Give two key principles.	1	U	3
3	Outline the steps of the Requirement Engineering Process.	2	A	3
4	Explain feasibility study with a suitable example.	2	U	3
5	List any three UML diagrams and their significance	2	U	3
6	What is the role of a project manager in software development?	3	A	3
7	Differentiate CPM and PERT.	3	A	3
8	Define software quality. Why is it important in software development?	5	U	3
9	List any three levels of software testing.	5	U	3
10	Write a short note on CASE tools in software engineering.	6	A	3

PART – B

All questions can be attended.
Each question carries **six** marks.
Ceiling -36 Marks

		COs	Knowledge Level(KL)	Marks
11	Compare Waterfall and Incremental process models with advantages and limitations.	1	An	6
12	Explain the various design model elements with neat examples.	2	U	6
13	Draw and explain a simple DFD for an online ticket booking system.	2	Ap	6
14	Illustrate Work Breakdown Structure (WBS) and its significance in project planning.	3	Ap	6
15	Elucidate various risk identification and projection strategies in SPM.	3	An	6
16	Elaborate black box and white box testing with examples.	5	U	6
17	Recall the art of debugging with suitable examples.	5	Ap	6
18	Prepare a mini case study on the use of project report analysis in software development.	6	E	6

PART - C

Answer any ***one*** questions.
Each question carries **Ten** marks.

		COs	Knowledge Level(KL)	Marks
19	a)Explain architectural design using DFD with an example.	2	E	5
	b)List the component-level design guidelines in software engineering.	2	U	5
20	a)Prepare a project schedule using Gantt charts for a library management system.	4	C	5
	b)Evaluate the role of quality assurance and testing strategies in ensuring project success.	5	E	5

1 x 10 = 10 Marks

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester B.Sc Degree Examination, November 2025

CSC3CJ202– Data Structures and algorithm

(FYUGP 2024 Admission onwards)

Time: 2 hours Max. Marks : 70

Q.No	Question	CO	KL	Marks
	Section A – Short Answer type. **Answer *all* questions. Each question carries 3 Marks (Ceiling 24 Marks).**			
1	Define Abstract Data Type (ADT) with an example.	CO1	R	3
2	Differentiate between linear and non-linear data structures.	CO1	U	3
3	List two advantages of linked list over arrays.	CO1	R	3
4	Define stack overflow and underflow.	CO1	R	3
5	What are input-restricted and output-restricted deques?	CO1	U	3
6	Define expression tree with an example.	CO3	U	3
7	What is a directed graph? Give an example.	CO3	R	3
8	State the principle of selection sort.	CO4	R	3
9	What is collision in hashing? List two open hashing methods.	CO4	R	3
10	State two differences between linear search and binary search.	CO4	U	3

Section B - Paragraph Type Questions. **Answer *all* questions. Each question carries 6 Marks (Ceiling 36 Marks).**				
11	Explain traversal operations in arrays with examples.	CO2	Ap	5
12	Write an algorithm for push and pop operations on stack using linked list.	CO2	Ap	5
13	Explain the working of a circular queue with algorithm.	CO2	Ap	5
14	Compare binary tree representation using array and linked list.	CO3	U	5
15	Discuss non recursive inorder traversal of a binary tree.	CO3	An	5
16	Explain bubble sort algorithm with a suitable example.	CO4	Ap	5
17	Describe division method and folding method in hashing.	CO4	U	5
18	Illustrate an application scenario where graphs are used.	CO5	Ap	5
Section C - Essay Type Questions. **Answer any *one* question. Each question carries 10 Marks.**				
19	Implement stack-based evaluation of postfix expressions and analyze time complexity.	CO6	An	10
20	Discuss and compare different sorting algorithms (selection, bubble, quick) with respect to time complexity and efficiency.	CO6	C	10

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester B.Sc Degree Examination, November 2025

CSC3MN202– Introduction To AI and Machine learning

(FYUGP 2024 Admission onwards)

Time: 2 hours Max. Marks : 70

Q.No	Question	CO	KL	Marks
	Section A – Short Answer type. **Answer *all* questions. Each question carries 3 Marks (Ceiling 24 Marks).**			
1	Define Artificial Intelligence and mention any two of its applications.	CO1	R	3
2	List the different AI domains.	CO1	R	3
3	What is constraint satisfaction problem in AI?	CO2	U	3
4	Mention two features of game playing in AI.	CO2	U	3
5	Define perceptron model.	CO1	R	3
6	What is the role of Pandas in AI programming?	CO3	R	3
7	List any two features of Matplotlib.	CO3	R	3
8	What is supervised machine learning? Give one example.	CO4	U	3
9	Define clustering in machine learning.	CO4	R	3
10	State one difference between machine learning and deep learning.	CO4	U	3

Section B - Paragraph Type Questions. **Answer *all* questions. Each question carries 6 Marks (Ceiling 36 Marks).**				
11	Explain the evolution of Artificial Intelligence.	CO1	U	5
12	Differentiate between knowledge representation and reasoning.	CO1	An	5
13	Describe the working of the simulated annealing technique.	CO2	Ap	5
14	Explain the structure of a single-layer perceptron with diagram.	CO2	U	5
15	Describe the use of Scikit-learn in developing AI applications.	CO3	Ap	5
16	Explain supervised vs. unsupervised learning with examples.	CO4	An	5
17	Discuss dimensionality reduction in machine learning.	CO4	U	5
18	Explain reinforcement learning with an example.	CO5	Ap	5
Section C - Essay Type Questions. **Answer any *one* question. Each question carries 10 Marks.**				
19	Design AND Gate and OR Gate.	CO6	C	10
20	Implement and compare classification and regression problems using Scikit-learn with a dataset.	CO5	E	10