

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Fifth Semester)

Branch -COMPUTER SCIENCE WITH DATA ANALYTICS

MAJOR ELECTIVE COURSE- I SOFTWARE PROJECT MANAGEMENT

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is NOT a typical activity in software project management? a) Planning b) Budgeting c) Software coding d) Risk management	K1	CO1
	2	In software project management, a milestone is: a) A type of software b) A goal that must be achieved within a certain time c) A type of programming language d) A person responsible for testing	K2	CO1
2	3	Which of the following is the first step in the stepwise project planning process? a) Allocate resources b) Select the project c) Identify risks d) Estimate effort for each activity	K1	CO2
	4	Which software development model emphasizes iterative development and risk management? a) Waterfall model b) Spiral model c) V-model d) Incremental model	K2	CO2
3	5	Which of the following is a top-down software estimation technique? a) Parametric model b) Expert judgment c) Function Point Analysis d) Bottom-up estimation	K1	CO3
	6	Which estimation approach uses historical project data for predicting effort? a) Expert judgment b) Bottom-up estimation c) Estimating by analogy d) Guesswork	K2	CO3
4	7	In network planning, the critical path is the a) Longest path through the project with maximum float b) Shortest path through the network c) Longest path through the project with zero float d) Path that finishes last	K1	CO4
	8	Which of the following techniques is used to estimate activity duration and risk in project schedules? a) Gantt Chart b) PERT c) CPM d) Waterfall Model	K2	CO4
5	9	Which of the following is NOT a typical resource considered during software project resource allocation? a) Human resources b) Financial resources c) Weather conditions d) Software tools	K1	CO4
	10	According to the Oldham-Hackman Job Characteristics Model, which of the following is considered a key factor in motivating software developers? a) Task variety b) Salary increments only c) Physical work environment d) Strict supervision	K2	CO5

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Define Software Project Management and explain its importance in the successful delivery of software systems.	K1	CO1
		(OR)		
	11.b.	List and briefly explain any five types of stakeholders involved in a software project.		
2	12.a.	List and explain any five steps involved in the step-wise project planning process.	K1	CO2
		(OR)		
	12.b.	Define a software process model. Briefly describe the Waterfall model with its key stages.		
3	13.a.	Apply the bottom-up estimation technique to explain how effort would be calculated for a small module with multiple tasks. Give a brief example of task-wise breakdown.	K3	CO3
		(OR)		
	13.b.	Consider a scenario where a project was significantly delayed due to underestimation. Explain how expert judgment and estimating by analogy could help improve effort accuracy in future projects.		
4	14.a.	Apply the forward pass and backward pass techniques to compute early start, early finish, late start, and late finish times for a small sample activity network.	K4	CO4
		(OR)		
	14.b.	Consider a software project with high technical complexity. Describe how you would apply a risk identification and assessment framework to manage possible schedule delays.		
5	15.a.	Evaluate the process of scheduling resources and creating a critical path for a software project.	K5	CO5
		(OR)		
	15.b.	Analyze how motivation and stress management influence productivity in software teams using examples from organizational behavior theory.		

SECTION - C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Describe the difference between software projects and other types of projects. Also, briefly explain how setting objectives, goals, and milestones help in managing a software project.	K1	CO1
2	17	What is meant by incremental delivery in software project management? How does it compare with the Waterfall and Agile models in terms of delivery structure and flexibility?	K1	CO2
3	18	You are managing a mid-sized software development project. Apply any two estimation techniques (e.g., top-down, parametric, expert judgment, or analogy) to estimate the effort required. Compare the strengths and limitations of both approaches in your scenario.	K3	CO3
4	19	Given a sample network diagram with activities and durations, apply the Critical Path Method (CPM) to identify the critical path. Also, calculate the float for non-critical activities and suggest ways to shorten the project duration.	K4	CO4
5	20	Critically evaluate the ethical and professional concerns in managing people in software projects. How can project managers address these concerns to foster a healthy work environment?	K5	CO5

Z-Z-Z END