23DAU524N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(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 one of the following is a characteristic that differentiates software projects from non-software (physical) projects? A. High reproducibility of deliverables B. Immutable requirements after start C. Low flexibility to change D. Physical resource procurement is minimal	K1	CO1
	2	In project evaluation, interpret which of the following statements best describes the Net Present Value (NPV) method. A. It ignores the time value of money B. It computes the discount rate at which total benefits equal costs C. It subtracts the present value of costs from the present value of benefits D. It simply looks at the payback period of investment	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	Show which project approach model emphasizes risk evaluation and iterative development. A. Waterfall Model B. V-Model C. Spiral Model D. Prototyping Model	K2	CO2
3	5	Which of the following is a technique used in software effort estimation? A. Functional testing B. Parametric modeling C. Data mining D. Use case mapping	K1	CO3
	6	Predict the major problem with under-estimating software project effort. A. The project will have higher profit margins B. It leads to better time management C. It may cause project delays and cost overruns D. It increases developer satisfaction	K2	CO3
4	7	Which of the following techniques is used to identify the critical path in project planning? A. ER diagram B. Gantt chart C. PERT/CPM D. Use case diagram	K1	CO4
	8	Show the purpose of a backward pass in network planning. A. To allocate budgets B. To determine latest start and finish times C. To identify user requirements D. To create Gantt charts	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

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5	10	According to the Oldham-Hackman Job Characteristics Model, identify 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

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.	Explain the role of stakeholders in a software project.	K4	CO1
		(OR)		
	11.b.	Describe the cost-benefit evaluation techniques used in project evaluation.		
2	12.a.	Explain the main steps involved in the stepwise project planning process.	K4	CO2
		(OR)		
	12.b.	Describe the key characteristics of the Waterfall and Agile models.		
3	13.a.	Explain the major problem with under-estimating software project effort.	K5	CO3
		(OR)		
	13.b.	Apply and explain the bottom-up and top-down approaches to software effort estimation.		
4	14.a.	Determine how critical path and activity float help in optimizing a project schedule.	K5	CO4
		(OR)		
	14.b.	Summarize the process of sequencing and scheduling activities using network planning models.		
5	15.a.	Explain the process of scheduling resources and creating a critical path for a software project.	K6	CO5
		(OR)		
	15.b.	Generalize 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	Differentiate contract management and technical project management in software projects.	K4	CO1
2	17	Compare and contrast the Spiral model and the Agile model as software project approaches.	K4	CO2
3	18	Compare various software effort estimation techniques and apply them to a small hypothetical project.	K5	CO3
4	19	Evaluate how risk management techniques help in handling schedule risks. Apply PERT or Critical Chain concepts.	K5	CO4
5	20	Compile the ethical and professional concerns in managing people in software projects. How can project managers address these concerns to foster a healthy work environment?	K6	CO5

Z-Z-Z END