VELS INSTITUTE OF SCIENCE, TECHNOLOGY AND ADVANCED STUDIES
SCHOOL OF ENGINEERING

DEPARTMENT: B.Tech CSE-Data Science(R – 2021)/B.Tech IT(R- 2022) /B.Tech CSE(R-2022)

SEMESTER: VIII
TITLE OF THE PAPER: SOFTWARE PROJECT MANAGEMENT

SUBJECT CODE: 21EBDS8D/ 22EBIC8A /22EBCE8A

TIME: 03 Hours **Max. Marks: 100**

SECTION – A (2 MARKS)

S.No	Questions	Unit	K-Level	CO	PO	Marks
1	Define a Software Project.	I	K1	1	1	2
2	What is meant by Project Definition?	I	K1	1	1	2
3	List any two objectives of Software Project Management.	I	K1	1	3	2
4	Who are stakeholders in a Software Project?	I	K1	1	3	2
5	What is requirement specification?	I	K1	1	2	2
6	State the importance of contract management.	I	K2	1	2	2
7	Mention any two activities covered by software project management.	I	K1	1	3	2
8	Differentiate project and process.	I	K2	1	3	2
9	What is management control?	I	K2	1	2	2
10	Define project planning	I	K1	1	1	2
11	List the components of a project plan.	I	K2	1	1	2
12	What is the role of a project manager?	I	K2	1	2	2
13	State the purpose of stepwise project planning.	I	K2	1	3	2
14	Identify two common project constraints.	I	K1	1	1	2
15	Write a short note on project methodology.	I	K2	1	3	2
16	Define feasibility study in project planning.	I	K1	1	3	2
17	Name any two project planning tools.	I	K3	1	2	2
18	What is risk management in software projects?	I	K1	1	3	2
19	List any two Project Management Methodologies.	I	K4	1	2	2
20	What is Gantt Chart?	I	K2	1	3	2
21	Define project evaluation.	II	K1	2	2	2
22	What is strategic assessment?	II	K1	2	2	2
23	What is technical assessment?	II	K1	2	1	2
24	Define cost–benefit analysis.	II	K1	2	3	2
25	What is cash flow forecasting?	II	K1	2	3	2
26	Define net profit method.	II	K1	2	2	2
27	What is payback period?	II	K1	2	3	2
28	Define return on investment (ROI).	II	K1	2	3	2

29	What is net present value (NPV)?	II	K1	2	3	2
30	Define internal rate of return (IRR).	II	K1	2	2	2
31	What is risk identification?	II	K2	2	2	2
32	What is risk ranking?	II	K2/K6	2	2	2
33	Define risk profile analysis.	II	K2	2	3	2
34	What is a decision tree?	II	K2	2	2	2
35	State the purpose of project evaluation techniques.	II	K2	2	3	2
36	Define project evaluation.	II	K1	2	1	2
37	What is the purpose of using Decision Trees in project evaluation?	II	K2	2	4	2
38	Mention any two techniques used in Cost-Benefit Evaluation.	II	K1	2	5	2
39	State the importance of discounting in NPV calculation.	II	K2	2	3	2
40	Define tangible and intangible benefits.	II	K2	2	2	2
41	What is the primary objective of activity planning in a project?	III	K1	3	1	2
42	Define a project schedule	III	K1	3	1	2
43	How does scheduling differ from sequencing activities	III	K2	3	3	2
44	What is the purpose of performing a forward pass in network analysis?	III	K1	3	3	2
45	Define backward pass in project scheduling.	III	K1	3	3	2
46	How can activity float help in managing project delays?	III	K2	3	1	2
47	Name one method to shorten the duration of a project	III	K1	3	1	2
48	What is an activity-on-arrow (AOA) network?	III	K1	3	1	2
49	Define risk management in projects.	III	K1	3	1	2
50	What does the term “nature of risk” refer to in project management?	III	K1	3	2	2
51	Why is risk management important in project planning?	III	K2	3	2	2
52	What is the difference between internal and external project risks	III	K2	3	2	2
53	Define hazard analysis	III	K1	3	3	2
54	Write any one technique used for hazard analysis	III	K2	3	3	2
55	What is the main goal of risk management?	III	K1	3	2	2
56	What is risk management in software projects?	III	K1	3	3	2
57	Mention any one technique used for hazard analysis.	III	K1	3	3	2
58	What is meant by forward pass in network scheduling?	III	K1	3	2	2

59	Define activity planning in Software Project Management.	III	K1	3	2	2
60	Define Risk Mitigation	III	K1	3	3	2
61	What is the purpose of creating a Project Management Framework?	IV	K1	4	1	2
62	Apply a data collection method to track the progress of a construction project.	IV	K3	4	1	2
63	How Gantt charts help in monitoring project progress.	IV	K2	4	1	2
64	What is the main objective of cost monitoring in a project?	IV	K1	4	1	2
65	Explain the significance of the Cost Performance Index (CPI) in EVA.	IV	K2	4	2.3	2
66	Why is prioritizing monitoring important in project management?	IV	K1	4	1	2
67	Apply a corrective action to reduce delays in a project.	IV	K3	4	1	2
68	Define change control.	IV	K1	4	1	2
69	What is contract management?	IV	K2	4	1	2
70	List the types of contracts.	IV	K1	4	1	2
71	Draw the project reporting structures.	IV	K3	4	2,3	2
72	What are Memoranda of Agreement (MoA)?	IV	K1	4	1	2
73	Define managing contracts.	IV	K2	4	1	2
74	How are proposals to be evaluated?	IV	K1	4	2,4	2
75	Define Software Configuration Management.	IV	K1	4	1	2
76	Mention any two tools used for progress visualization.	IV	K2	4	2	2
77	What is prioritizing monitoring?	IV	K1	4	1	2
78	What is meant by corrective action in projects?	IV	K1	4	2	2
79	How Project Management Framework can be Created?	IV	K1	4	2	2
80	Mention any two tools used for project progress visualization.	IV	K1	4	4	2
81	What are the three basic objectives of organizational behaviour?	V	K1	5	1	2
82	How do you select the right persons for the job?	V	K2	5	2,5	2
83	What is motivation?	V	K1	5	1	2
84	What is “Maslow’s hierarchy of needs?	V	K2	5	1	2
85	State Herzberg’s two factor theory.	V	K2	5	1	2
86	Write the significance of Oldham-Hackman job characteristic model.	V	K3	5	2,5	2
87	Define Job Enlargement.	V	K1	5	1	2
88	Define Democratic Team.	V	K1	5	1	2
89	Mention the important causes of stress encountered in projects.	V	K4	5	2	2

90	What are the two categorized for decision making?	V	K1	5	2	2
91	Mention some mental obstacles to good decision making.	V	K2	5	2	2
92	What is the leadership theory?	V	K2	5	9	2
93	Write down the importance of intrinsic motivation.	V	K2	5	9	2
94	List out the types of stress.	V	K1	5	2	2
95	What are the various stages of development of a team?	V	K1	5	9	2
96	Define decision making.	V	K1	5	2	2
97	State any four qualities of an effective leader.	V	K2	5	4	2
98	What is meant by organizational structure?	V	K1	5	3	2
99	State the importance of health and safety measures in organizations.	V	K2	5	3	2
100	Why are case studies used in organizational behaviour?	V	K2	5	1	2

SECTION – B (16 MARKS)

S. No	Questions	Unit	K-Level	CO	PO	Marks
101	Explain Project Definition in detail and discuss its importance in Software Project Management.	I	K2	1	1	16
102	Describe Contract Management in software projects. Explain different types of software contracts with examples.	I	K2	1	3	16
103	Discuss in detail the activities covered by Software Project Management.	I	K3	1	1	16
104	Explain project objectives and scope. How are they defined and controlled in software projects?	I	K3	1	1	16
105	Describe different stakeholders in a software project and analyze their roles and responsibilities.	I	K2	1	1	16
106	Explain Requirement Specification in detail. Discuss the structure and contents of an SRS document.	I	K2	1	3	16
107	Discuss various project planning methodologies used in Software Project Management. Compare them.	I	K4	1	3	16
108	Explain stakeholder identification and management in software projects.	I	K4	1	3	16
109	Describe requirement specification and its importance in project success.	I	K3	1	3	16

110	Explain management control mechanisms used in software projects.	I	K4	1	1	16
111	Discuss project planning and its phases in detail.	I	K2	1	2	16
112	Explain the stepwise project planning approach with a neat diagram.	I	K3	1	3	16
113	Analyze the challenges faced in managing software projects.	I	K4	1	2	16
114	Compare traditional and modern approaches to software project management.	I	K4	1	3	16
115	Evaluate the importance of effective planning in successful project execution.	I	K5	1	1	16
116	Discuss risk management in software projects. Apply suitable mitigation strategies for a data science project	I	K3	1	4	16
117	Discuss project scheduling techniques such as Gantt Charts, PERT, and CPM. Compare them.	I	K4	1	5	16
118	Explain cost estimation techniques used in software projects. Evaluate their effectiveness.	I	K2	1	5	16
119	Discuss the role of feasibility study in project initiation and justify its importance.	I	K4	1	4	16
120	Elaborate quality management in software projects. Evaluate QA and QC practices.	I	K5	1	3	16
121	Explain the need and importance of project evaluation.	II	K2	2	3	16
122	Discuss strategic assessment in project evaluation.	II	K3	2	3	16
123	Explain technical assessment with suitable examples.	II	K3	2	1	16
124	Describe cost–benefit analysis and its significance.	II	K2	2	3	16
125	Explain cash flow forecasting techniques used in project evaluation.	II	K3	2	3	16
126	Discuss net profit method with illustration.	II	K3	2	3	16
127	Explain payback period method with advantages and limitations.	II	K3	2	2	16
128	Describe return on investment (ROI) as an evaluation technique.	II	K3	2	2	16
129	Explain net present value (NPV) method with example.	II	K4	2	3	16
130	Discuss internal rate of return (IRR) technique in detail.	II	K4	2	2	16
131	Compare NPV and IRR methods.	II	K4	2	2	16
132	Explain risk evaluation process: identification and ranking.	II	K4	2	2	16
133	Discuss cost–benefit evaluation techniques in detail.	II	K4	2	3	16

134	Explain risk profile analysis with suitable illustration.	II	K5	2	1	16
135	Describe the use of decision trees in project evaluation.	II	K5	2	2	16
136	Explain how Decision Trees are used in project risk evaluation with a neat diagram.	II	K3	2	4	16
137	Analyse various risks involved in implementing an AI-based data science project and suggest mitigation strategies.	II	K4	2	5	16
138	Develop a strategic and technical assessment framework for selecting a data science project.	II	K6	2	3	16
139	Critically evaluate Cost-Benefit Analysis as a decision-making tool in software project management.	II	K5	2	2	16
140	Explain discounting techniques used in NPV and IRR calculations.	II	K2	2	1	16
141	Explain the objectives of activity planning in software project management.	III	K1	3	1	16
142	Describe the process of preparing a project schedule using network planning models.	III	K2	3	1	16
143	Illustrate the sequencing and scheduling of activities using a suitable project example.	III	K3	3	3	16
144	Analyse the role of forward pass and backward pass techniques in determining project duration.	III	K4	3	3	16
145	Evaluate the importance of activity float in effective project monitoring and control.	III	K5	3	5	16
146	Explain Activity-on-Arrow (AOA) networks and their application in project scheduling.	III	K2	3	1	16
147	Analyse different methods used to shorten project duration and their impact on cost.	III	K4	3	2	16
148	Evaluate the cost–time trade-off involved in project crashing.	III	K5	3	2	16
149	Define risk management and explain the nature of risk in software projects.	III	K1	3	2	16
150	Explain the different types of risks involved in software project management.	III	K2	3	2	16
151	Apply suitable risk management techniques to handle risks in a software project.	III	K3	3	5	16
152	Analyse the process of hazard identification and hazard analysis in projects.	III	K4	3	3	16
153	Evaluate how effective hazard analysis can reduce project failures.	III	K5	3	3	16
154	Evaluate how project managers use scheduling and risk information to make effective decisions.	III	K5	3	5	16
155	Analyse the role of risk control in supporting	III	K4	3	4	16

	contract placement and project execution.					
156	Explain the concept of milestones and their role in tracking software project progress.	III	K1	3	2	16
157	Describe the steps involved in constructing a Critical Path Method (CPM) network for a software project.	III	K2	3	2	16
158	Apply the PERT technique to estimate project duration under uncertain activity times.	III	K3	3	2	16
159	Analyse the impact of schedule slippage and risk escalation on overall project performance.	III	K4	3	3	16
160	Evaluate the effectiveness of integrating scheduling techniques with risk management for successful software project delivery.	III	K5	3	3	16
161	Explain the concept of creating a framework for monitoring and controlling software projects.	IV	K1	4	1	16
162	Describe the steps involved in collecting project performance data for effective monitoring.	IV	K2	4	1	16
163	Apply suitable data collection techniques to monitor the progress of a software project.	IV	K3	4	1	16
164	Analyse different techniques used for visualizing project progress and performance.	IV	K4	4	3	16
165	Evaluate the effectiveness of dashboards and Gantt charts in project progress visualization.	IV	K5	4	3	16
166	Explain the concept of cost monitoring in software project management.	IV	K1	4	2	16
167	Describe various cost monitoring techniques used to control project expenditure.	IV	K2	4	2	16
168	Analyse the causes of cost variance in projects and suggest corrective measures.	IV	K4	4	2	16
169	Explain the concept of Change Control in project and contract environments. Discuss the need, objectives, and procedures involved in effective change control.	IV	K4	4	2,4	16
170	Explain the importance of contract management in business operations and project execution.	IV	K1	4	1,5	16
171	What are the different types of contracts? Explain each type with suitable examples and highlight their advantages and limitations.	IV	K5	4	2,4	16
172	Discuss the stages involved in contract placement. Explain how each stage contributes to successful contract execution.	IV	K4	4	2,4	16
173	Describe the typical terms and conditions included in commercial and technical contracts. Explain their significance in reducing contractual disputes.	IV	K5	4	5	16
174	Explain acceptance in contracting. Discuss the	IV	K5	4	3	16

	legal, commercial, and operational implications of acceptance in contract management.					
175	Discuss the lifecycle of managing contracts. Explain the processes involved from initiation, negotiation, execution, and monitoring to contract closure.	IV	K6	4	4	16
176	Explain the concept of prioritizing monitoring activities.	IV	K3	4	4,5	16
177	Explain how project deviations are identified and corrected through monitoring and control.	IV	K3	4	3	16
178	Explain how visualization helps in effective project control.	IV	K3	4	2	16
179	Explain the concept of quality monitoring in software project management.	IV	K1	4	4	16
180	Evaluate the effectiveness of quality management tools in improving software project outcomes.	IV	K5	4	4	16
181	Explain the concept of Organizational Behavior (OB). Discuss its nature, scope, and relevance in modern organizations.	V	K2	5	1	16
182	Describe the various models and disciplines that contribute to the understanding of human behavior in organizations.	V	K2	5	1	16
183	Discuss the process and importance of selecting the right person for the job. Explain different methods of employee selection with suitable examples.	V	K4	5	2,5	16
184	Explain the role of training and instruction in organizations. Compare modern training methods with traditional instruction-based methods.	V	K4	5	2,5	16
185	Explain how training contributes to employee effectiveness.	V	K3	5	9	16
186	What is motivation? Discuss any two major theories of motivation and justify their relevance in today's workplace.	V	K5	5	2	16
187	Explain how group behavior develops within an organization. Describe the factors influencing group formation and performance.	V	K1	5	2	16
188	Discuss the stages of group development. Explain how effective teamwork influences organizational success.	V	K4	5	2	16
189	Define a team. Differentiate between groups and teams. Discuss the characteristics of high-performing teams.	V	K4	5	3	16

190	Explain in detail the Oldman & Hackman Job Characteristics Model and its implications for job design.	V	K5	5	5	16
191	Explain different leadership styles and theories. Critically analyze their applications in organizational settings.	V	K5	5	3	16
192	Explain the various types of organizational structures and their suitability for different business environments.	V	K5	5	2,5	16
193	Explain stress and its sources in the workplace. Discuss strategies to manage and reduce organizational stress.	V	K3	5	3	16
194	Explain the causes, effects, and methods of managing stress in organizations.	V	K4	5	9	16
195	Analyze any one organizational case study (industrial, managerial, or behavioral). Highlight the major problem, analysis, and recommendations.	V	K6	5	9	16
196	Explain the process of decision-making in organizations. Discuss individual vs. group decision-making with advantages and limitations.	V	K4	5	1	16
197	Explain the role of case studies in Organizational Behaviour.	V	K3	5	1	16
198	Discuss occupational health and safety at the workplace. Explain the significance of safety policies, training, and employee well-being.	V	K4	5	2	16
199	A project group in an IT organization consists of highly skilled individuals. However, conflicts among members and lack of coordination have delayed project completion. Questions: Identify the reasons for poor performance of the group. Differentiate between a group and a team in this context. Suggest measures to convert the group into an effective team.	V	K5	5	1	16
200	Explain different training and development methods. Evaluate their effectiveness in improving employee performance.	V	K5	5	4,9	16