Hall Ticket Number:

Code No. : 18621 B

VASAVI COLLEGE OF ENGINEERING *(AUTONOMOUS)*, HYDERABAD

Accredited by NAAC with A++ Grade

B.E. (I.T.) VIII-Semester Main & Backlog Examinations, June-2022

Software Project Management (PE-V)

Time: **3 hours** Max. Marks: **60**

*Note: Answer all questions from **Part-A** and any **FIVE** from **Part-B***

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Identify the five necessary improvements of waterfall model.	2	1	1	1
2.	Based on what parameters software cost can be estimated? Explain.	2	2	1	1
3.	What is the role of design workflow in four lifecycle phases?	2	1	2	1
4.	Differentiate between major milestones and minor milestones.	2	2	2	1
5.	Define Work Breakdown Structures (WBS). What are the conventional WBS issues?	2	1	3	1
6.	List out the default roles in a software Line-of-Business organization.	2	1	3	1
7.	Identify the seven core metrics of the software process.	2	1	4	1
8.	Give the perspectives of rework and adaptability metric.	2	1	4	1
9.	What is the importance of modern project profiles? What are the benefits of Capability Maturity Model?	2	1	5	1
10.	What are the factors that affect Software process improvement? Identify the two major improvements in next-generation software cost estimation models.	2	1	5	1
	Part-B (5 × 8 = 40 Marks)				
11. a)	Calculate the Return on Investment (ROI) for each of the projects shown in below table and explain which project is most worthwhile and why?	4	3	1	2

Year	Project 1	Project 2
0	–100,000	-120,000
1	10,000	30,000
2	10,000	30,000
3	10,000	30,000
4	20,000	30,000
5	100,000	75,000
Net Profit	50,000	75,000

Where Negative values represent expenditure and positive values represent income for project 1 and project 2.

b)	Compare and contrast conventional process and modern iterative process with respect to quality driver parameters.	4	4	1	2
12. a)	Analyze the "Construction phase" of software development life cycle with respect to the following: (i)Primary objectives (ii)Essential activities (iii)Evaluation criteria	4	4	2	2

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b)	What are the seven software process workflows? What levels of activity takes place during each of the four life cycle phases? Explain with neat sketch.	4	2	2	11
13. a)	Explain about the software development and assessment team activities over the project life cycle.	4	2	3	11
b)	Illustrate how the team's center of gravity shifts over the life cycle with 50 % of staff assigned to one set of activities in each phase.	4	3	3	11
14. a)	Draw the graphical perspective of earned value system with respect to basic parameters. Consider a project with the given information: Earned Value (EV) = $400, Actual Cost (AC) = $350 , Planned Value (PV)= $450 and the original project budget is $1,000. Assume that the remaining work will be impacted by the current cost performance and current schedule performance. Calculate the Estimate At Completion (EAC) of the project?	4	3	4	2
b)	The latest Earned Value(EV) report of the project shows the following: Cost Performance Index(CPI) = 1.4, Schedule Performance Index(SPI) = 0.9, Planned Value(PV) = $600,000, Schedule Variance (SV) = -$230,000. Calculate the Cost Variance (CV) of the project?	4	3	4	2
15. a)	Compare and analyze the Engineering stage and Production stage of Next-generation cost models with respect to the following parameters: (i)Team size (ii)Product (iii)Focus (iv)Phases	4	4	5	11
b)	Illustrates the differences between the progress profile of a modern project and a typical conventional project over the lifecycle phases with a neat sketch. Identify the difference in workflow cost allocation between a conventional process and a modern process among the various project workflows.	4	4	5	11
16. a)	What is the significance of reducing the product size? Explain briefly how the product size can be reduced.	4	2	1	1
b)	Identify the different categories of artifact sets. Describe each artifact set in detail.	4	2	2	1
17.	Answer any *two* of the following:				
a)	Analyze the difference between Macro Analysis Technique and Micro Analysis Technique.	4	4	3	2
b)	Illustrates two primary dimensions of process variability. Summarize the different priorities for tailoring the process framework.	4	3	4	2
c)	Explain software process maturity levels in CMM with a neat diagram.	4	2	5	1

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20 %
ii)	Blooms Taxonomy Level – 2	30 %
iii)	Blooms Taxonomy Level – 3 & 4	50 %

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