Acuity Educare

SOFTWARE PROJECT MANAGEMENT SEM : V

SEM V: UNIT 1-5

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Note:

- Each unit comprises of three color codes.
- Students are expected to do at least two color codes from each unit.
- Blue and red colors are preferred ones.

Unit 1:

1) What is a project? Explain how software projects are different from other projects.
2) What are the various activities covered by Project Management?
3) Short note on SDLC.
4) **Explain various ways of categorizing projects OR Explain different types of projects.**
5) Short note on Project charter.
6) **Short note on Stakeholders. Explain the acronym 'SMART'.**
7) What is Management? Explain Project management process in detail.
8) **Short note on Management Control.**
9) **What is project management life cycle? Explain its various phases.**
10) Explain the differences between traditional versus modern project management practices.
11) Short note on Business Case. Explain its contents.
12) **Explain various ways to evaluate the feasibility of projects.**
13) **Explain various methods of Cost-Benefit analysis with an example.**
14) What are the various methods of evaluating business risk? **OR** Explain decision trees in Risk evaluation with appropriate example.
15) **Short note on Programme management. Differentiate between Programme & Project manager.**
16) **Short note on Benefits management.**
17) Explain Stepwise project planning approach with suitable diagram.
18) Explain the step 1 / 2 / 3 …. 9 in detail.
19) **Explain WBS and PFD with an example.**
20) Explain the use of checkpoints with a diagram.
21) **What is a Gantt chart? Explain various key points about Gantt chart.**

Define Net Profit, Payback Period and Returns on Investment. Calculate these values for the following cash flow forecast of a project.

Year	Cash-flow
0	-1,00,000
1	20,000
2	30,000
3	20,000
4	30,000
5	60,000

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Unit 2:

1) Explain the various factors involved in the decision of building or buying software?
2) **Short note on waterfall / Spiral / prototyping / Incremental model with its advantages and disadvantages.**
3) Short note on Agile methodologies and list various models based on Agile.
4) Explain Atern /DSDM model in detail with MOSCOW priorities.
5) **Short note on XP with its limitations.**
6) **Short note on Scrum.**
7) Explain various Sprint artefacts in detail.
8) **What are the various problems with estimating? Explain over and under estimation problem and basis for successful estimation.**
9) What do you mean by person-month in effort estimation? Explain. Why is it called as Mythical?
10) **Explain top-down and bottom-up estimation.**
11) Short note on Expert judgement.
12) Short note on COCOMOII model.
13) **Short note on COCOMO model with its advantages and disadvantages.**
14) **Short note FP model with its advantages over COCOMO.**
15) Short note on COSMIC FP.
16) Explain Putanam's work in Staffing.
17) **List various Caper Jones rules.**

Explain briefly Albrecht/IFPUG function points and solve the following :-
For an organization, the following table summarizes the weightings to be used for computing function points measures of a software development project. The organization has undertaken the development of a software having the following characteristics:-

Number of user inputs - 10(simple)
Number of user outputs - 7 (simple)
Number of user inquiries - 3 (average)
Number of files - 6 (average)
Number of external interfaces - 1 (complex)
Calculate unadjusted function point measure of the size of the software system?

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Unit 3:

1) **State the difference between CPM and PERT.**
2) Explain project scheduling methods.
3) **Short note on Critical path with an example.**
4) **Explain forward and backward pass in the activity network with an example.**
5) Explain different kinds of links in an activity network.
6) What is float? Explain Free and interfering float with an example.
7) **Define Risk. Explain various categories of risk in detail.**
8) Explain various risk management approaches.
9) **Short note on Barry Boehm's top ten risks.**
10) Short note on risk assessment. Explain the use of probability chart and probability impact matrix.
11) **Short note on risk planning.**
12) Explain the use of PERT to evaluate the effects of uncertainty.
13) Short note on Monte Carlo Simulation.
14) **Explain critical chain concept. Show the Gantt chart critical chain planning approach with an example.**
15) **Short note on various kinds of resources.**
16) Explain resource allocation using histogram.
17) **Short note on resource smoothing with a diagram.**
18) What are resource clashes? How can it be resolves?
19) **What are the ways of prioritizing activities? Explain Burman's priority list.**
20) Short note on cost schedules (cost profile & accumulative cost diagram).
21) Short note on scheduling sequence (balancing concern diagram).

Using the data in the following table, answer the questions given below

ACTIVITY	DURATION	PREDECESSORS
A	6	-
B	8	-
C	3	A
D	5	B
E	4	C, D

i) Create a precedence activity network
ii) What is the total project duration?
iii)Calculate earliest start date, latest start date and float of all the events.
iv) Identify the critical path.

Suppose four risks namely R1, R2, R3 and R4 have been identified and assigned the probabilities of occurrence of 0.1, 0.2, 0.3 and 0.4 respectively. The likely damages due to the four risks are Rs. 50, 000; Rs. 1, 00,000; 70,000; 60,000 respectively. Calculate the risk exposure of al the risks.

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Unit 4:

1) Explain the control cycle with responsibility hierarchy in an organization.
2) **What is monitoring? Explain various ways of collecting data for assessing progress. (Red, Amber, Green reporting diagram)**
3) **Explain review process and give the detail of various roles in review.**
4) Explain project termination review and the various reasons for project termination.
5) Discuss the tools that can be used in visualizing progress being made in project (Gantt chart, Slip chart, the timeline).
6) **What is earned value in cost monitoring? Explain with the help of an example and earned value chart.**
7) What are the various ways project manager can take to bring the project back on track? Explain (Answer includes exception planning).
8) **Short note on change control.**
9) **What in configuration management? Explain SCM in detail.**
10) **Explain the different types of contract in detail.**
11) **Explain the various stages in contract placement.**
12) What is a contract? Explain contract checklist and contract management.
13) Explain Theory X and Theory Y of Hawthrone Effect.
14) **How to select the right person for the job? Explain the selection / recruitment process in projects.**
15) What is motivation? Explain Maslow, Herzberg and vroom's theory.
16) Explain Oldham-Hackman job characteristics with methods to improve job satisfaction.
17) **What is stress? Explain the reasons for stress and what the role of good management in stress is?**
18) **Short note on stress management.**
19) Short note on Health and safety.

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Unit 5:

1) Explain the meaning of Team. State its characteristics and benefits of working as a team.
2) Explain the stages of development of a team.
3) What is group performance? Explain barriers to good team decisions and Delphi approach.
4) Discuss the decision making process (team heedfulness – egoless programming, XP, Scrum & chief programmer teams).
5) Short note on organization and team structures with their types.
6) Explain the coordination dependencies that exist in an organization.
7) Explain time and place communication constraints and other factors affecting communication genres.
8) Explain communication plans with their contents.
9) What is leadership? Explain various leadership styles.
10) What is quality? Explain the importance of quality.
11) Explain ISO 12207 standard of development life cycle.
12) Explain ISO 9126 standard of software product quality.
13) Explain various software qualities according to ISO 9126.
14) What are the techniques to enhance product quality?
15) What is testing? Explain various levels of testing.
16) Explain V-process model and discuss verification and validation.
17) Short note on CMM. Explain various CMM maturity levels.
18) Short note on quality management system ISO 9001:2000.
19) Short note on Key process areas.
20) What is project closeout? Explain types of project closures.
21) What are the problems related to improper project closures?
22) What are the issues associated with project termination?
23) Explain the project closure process.
24) Short note on project closeout report.

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