

Question 1

- a. Value Management is a process used to provide the best value solution to the project objective. Describe how the processes of Value Management and Value Engineering enable the project team to develop various options to the point of being able to recommend a preferred option to the client.
- b. What are some of the limitations a project team can expect to encounter that will influence the effectiveness of the Value Management process? Give reasons to support your answer.
- c. Discuss the steps you would take to determine the feasibility of a project.

Question 2

- a. What roles do the project manager and the project sponsor perform in the management of the quality of a project?
- b. What is change control in the context of project quality management and why is it such an important factor?
- c. Explain what is meant by the terms:
 1. Success criteria
 2. Acceptance criteria
 3. Quality objectives

as they apply to project quality management. How would you envisage a project manager would determine what each of the above are, for a particular project?

Question 3

- a. There are many factors that are used to evaluate projects and select the option which delivers the best outcome for the sponsor. These include:
 1. Return on Investment (ROI)
 2. Payback Period
 3. Net Present Value (NPV)
 4. Internal Rate of Return (IRR)Explain the meaning of each of these numeric models and describe how they may be used in the project selection process.
- b. What part does a Work Breakdown Structure play in the planning, monitoring and controlling a project?

Question 4

- a. Discuss the issues that can have implications on the ability of the project manager to control project costs, and explain the characteristics of a good project cost control system.
- b. Explain the relationship between the planned costs, the actual costs and the earned value in a project which is ahead of schedule but in which the actual costs exceed the planned costs. What corrective action could be taken to ensure that the cost of completion does not exceed the budget?
- c. On day 30 of a construction project the project manager reports that there has been an actual cost of \$70,000 spent on the project against a scheduled cost of \$95,000. The project manager estimates the earned value at this point to be \$80,000. Calculate the cost and schedule variances for the project at this stage and illustrate these variances on a sketch graph.

Question 5

- a. Define quality in a project context.
- b. Explain how quality assurance applies to the management of quality in a project. What role does testing play in the quality assurance process and what are the quality issues at the implementation phase of a project life cycle?
- c. Discuss some of the essential elements of a project quality plan and how the plan is used to manage the quality within the project.

Question 6

For the schedule of activities shown below:

- a. Draw a network diagram, determine how long the project will take to complete and determine the critical path.
- b. Determine the maximum number of staff required, assuming that all activities start at their earliest start time.
- c. By delaying the start of non-critical activities find the minimum peak staff requirement.
- d. If the maximum number of staff available is 9 what is the shortest time in which the project can be completed?

Activity	Predecessor (Depends On)	Duration (Days)	Staff Required
A	Start	2	2
B	A	3	3
C	A	6	4
D	A	2	2
E	B	5	4
F	E	7	2
G	D,C	3	5
H	D	2	3
I	H	5	4
J	I,F	2	2
K	I	6	3
L	J,K	3	2
M	E	1	5

Question 7

- a. Explain the differences between top-down and bottom-up budgeting and discuss the advantages and disadvantages of each.
- b. What is meant by 'Critical Chain'? Explain how it works.
- c. Discuss some of the issues which affect the project manager's ability to control the project schedule and describe what preventative measures could be put in place to make this task more effective.