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- Answer all the following questions (Arabic is allowed)
  - Exam consists of two pages.
  - No. of questions: 4
  - Total marks: 40
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**Question1: [Marks: 14]:**

- a) What is a project, and what are its main attributes?
- b) State the ten knowledge areas of project management framework?
- c) What is a program? What is a project portfolio?
- d) Define project life cycle, and state the phases in a traditional project life cycle?
- e) What is the critical path? Can the project's critical path change?
- f) Describe briefly the two main reasons of task dependencies? Compare briefly between different types of dependencies?
- g) Define both of the project time management and project cost management?

**Question2: Complete the following sentences [Marks: 6]:**

- a) Several related application development projects done for the same functional group might best be managed as part of a .....
- b) ..... process involves determining the policies, procedures, and documentations that will be used for planning, executing, and controlling the project cost.
- c) .....process group involves measuring progress toward project objectives and taking corrective actions.
- d) You cannot start editing a technical report until someone else completes the first draft. This is represented by ..... type of dependency.
- e) ..... is the task at the lowest level of each branch in WBS.
- f) .....is a network diagramming technique used to predict total project duration.

**Question3: Choose the correct answer [Marks: 6]:**

- a) In which type of organization does the Project Manager has maximum authority?  
(Balanced matrix, Strong Matrix, Functional, Projectized)
- b) Which process group normally requires the most resources and time?  
(Initiating, Planning, Executing, Monitoring and controlling, Closing)
- c) \_\_\_\_\_ refer(s) to all the work involved in creating the products of the project and the processes used to create them.  
(Deliverables, Milestones, Scope, Product development)

- d) Scope \_\_\_\_\_ is often achieved by a customer inspection and sign-off on key deliverables.  
(acceptance, validation, completion, close-out)
- e) Predecessors, successors, logical relationships, resource requirements, constraints, imposed dates, and assumptions are all examples of items in \_\_\_\_\_.  
(activity list, Gantt chart, milestone attributes, activity attributes)
- f) \_\_\_\_\_ is a project performance measurement technique that integrates scope, time, and cost data.  
(Reserve analysis, Life cycle costing, Project cost budgeting, Earned value management)

**Question4: Solve the following problems [Marks: 14]:**

- I. Consider Table I for Project X. All durations are in weeks.
- Draw an AOA diagram representing the project. Determine burst and merge nodes.
  - State all possible paths and determine the critical path. How long is the critical path?
  - What is the shortest possible time needed to complete this project?

Table I: Network diagram data for project X

Activity	Initial Node	Final Node	Estimated Duration
A	1	2	6
B	1	3	7
C	1	4	4
D	2	6	9
E	2	3	9
F	4	3	8
G	3	7	3
H	4	5	4
I	3	6	5
J	5	7	2
K	6	7	6

- II. You have a project that is scheduled to be completed in 6 Months at a budgeted cost of \$300,000. At the end of 3rd month you do an analysis and you determine the job is 60% complete and you have spent \$170,000 (Assume linear distribution rate).
- What are CV, SV, CPI, and SPI for the project?
  - Is the project ahead of, behind schedule or on time?
  - What is the estimated cost and time for completing the project?