Q :) Gantt charts indicate

(a) Comparison of actual progress with the scheduled progress

(b) Balance of work to be done

(c) Progressive costs of project

(d) Inventory costs

Q :) A serious limitation of inter dependences between various activities is generally observed in

(a) Bar charts

(b) Milestone charts

(c) Network analysis

(d) Job layouts

Q :) What is the significant purpose of monitoring a project throughout its implementation phase?

(a) To fix responsibility for delays

(b) To rerail the project with control over cost over-run

(c) To rerail the project with minimum time over-run

(d) To rerail the project with optimal time and cost over-run

Q :) Consider the following statements in work breakdown structure:

1. It is a graphic representation of entire programme.
2. The top-down approach to planning is adopted
3. The down-top approach to planning is adopted
4. It is suitable for complex projects.

Which of the above statements is/are correct?

(a) 1 only

(b) 2 and 4

(c) 3 and 4

(d) 4 only

Q :) Consider the following statements:

1. **In work-breakdown structure top-down approach is adopted**
2. **Bar-chart depicts interdependencies of activities.**
3. **Controlling can be better achieved in milestone chart.**

Which of these statements is/are correct?

(a) 1 and 3 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q :) A bar chart is commonly used because

(a) It is simple to draw and easy to understand

(b) It indicates at a glance the overall progress of the project

(c) It shows critical and non-critical activities

(d) It incorporates uncertainties for delay in estimation of time required for completion of activities

Q :) Which of the following is/are the main drawback (s) in adopting bar charts?

1. **All the activities are shown as being independent of each other**
2. **The sequence of activities is not defined at all**
3. **It is difficult to judge whether an activity is completed or not**

(a) 1 only

(b) 2 only

(c) 3 only

(d) 1, 2 and 3

Q :) Which of the following techniques belong to ‘Project time plan’?

1. **Critical path method**
2. **Precedence network analysis**
3. **Line of balance technique**
4. **Linear programme chart**

(a) 1, 2 and 3 only

(b) 1, 2 and 4 only

(c) 3 and 4 only

(d) 1, 2, 3 and 4

Q :) Which one of the following techniques is not covered in project network analysis?

(a) Critical path method

(b) Program evaluation and review analysis

(c) Procedure network analysis

(d) Measurement book

Q :) Assertion (A) : A ‘dummy’ job is assigned ‘zero’ time to perform.

Reason (R) : IT is used mainly to specify precedence relationship.

Q :) Statement (I) : A dummy is an activity in the network.

Statement (II): A dummy is a representation in the network requiring neither time nor resources.

Q :) Given that

T = the duration of various jobs

T_m = mean time of different durations

N = number of observations

The standard deviation is given by

(a) $\Sigma t / n$

(b) $t - t_m$

(c) $\frac{\Sigma(t - tm)^2}{n}$

(d) $\sqrt{\frac{\Sigma\,(t - tm)^2}{n}}$

Q :) For a given activity, the optimistic time, pessimistic time and the most probable estimates are 5, 17 and 8 days respectively. The expected time is

(a) 8 days

(b) 9 days

(c) 10 days

(d) 15 days

Q :) The probability distribution taken to represent the completion time in PERT analysis is

(a) Gamma distribution

(b) Normal distribution

(c) Beta distribution

(d) Log-normal distribution

Q :) In PERT analysis, the time estimates of activities and probability of their occurrence follow

(a) Normal distribution curve

(b) β-distribution curve

(c) Poisson's distribution curve

(d) Binomial distribution curve

Q :) The probabilistic time is

(a) $\frac{t_0+tp+tn}{3}$

(b) $\frac{t_0+tp+4tn}{6}$

(c) $\frac{t_0+4tp+tn}{6}$

(d) $\frac{t_0+2tp+tn}{4}$

Where,

T_0 = Optimistic time

T_p = Pressure time

t_n = Most likely time

Q :) Which one of the following techniques is most suitable in case of research and development type of activity?

(a) Critical path method

(b) Project evaluation and review technique

(c) Bar chart

(d) Graphical evaluation and review technique

Q :) Consider the following statements:

1. PERT is activity-oriented and adopts deterministic approach.
2. CPM is event-oriented and adopts probabilistic approach.
3. PERT is event-oriented and adopts probabilistic approach.

Which of these statements is/are correct?

(a) 1 only

(b) 1 and 2

(c) 2 and 3

(d) 3 only

Q :) Assertion (A): The probability of completion of a multi-path project at the expected project completion duration is 50%.
Reason (R) : The standard deviate for the critical path duration is zero.

Q :) Slack time is associated with

(a) A real activity

(b) An event

(c) Both event and real activity

(d) Dummy activity

Q :) Consider the following pairs:

1. Difference between total float and free float : Interfering float
2. Sum of independent float and tail slack : Free float
3. Sum of independent float, tail slack and interfering float : Total float

Which of these pairs are correctly matched?

(a) 1, 2 and 3

(b) 1 and 2

(c) 2 and 3

(d) 1 and 3

Q :) Which one of the following project management techniques is determinstric in nature?

(a) CPM

(b) PERT

(c) GERT

(d) LCES

Q :) What is the time by which the completion of an activity can be delayed without affecting the start of succeeding activities, called?

(a) Total float

(b) Interfering float

(c) Independent float

(d) Free float

Q :) What is the duration by which the completion time of any activity can be delayed without affecting the start of any of the succeeding activities?

(a) Interfering float

(b) Free float

(c) Independent float

(d) Total float

Q :) Which one of the following is associated with a critical activity in a A-O-A network?

(a) Maximum float

(b) Minimum float

(c) Zero float

(d) Free float

Q :) Consider the following statements of network:

1. Only one time estimate is required for each activity.
2. Three time estimates for each activity.
3. Time and cost are both controlling factors
4. It is built-up of event-oriented diagram

Which of the above statements are correctly applicable to CPM network?

(a) 1 and 3

(b) 1 and 2

(c) 2 and 4

(d) 3 and 4

Q :) Consider the following statements:

1. Total float can affect activities in the chain.
2. Free float can affect only the preceding activities.
3. Independent flat affects only the particular concerned activity.

Which of these statements is/are correct?

(a) 1 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

Q :) Total float in a planning network is

(a) Late start time – Early start time

(b) Early start time – Late start time

(c) Late start time – Late finish time

(d) Late finish time – Early finish time

Q :) Consider the following statements pertaining to CPM network analysis:

1. It is event oriented method
2. It is activity oriented method.
3. Time and cost are controlling factors.
4. Time alone is controlling factor

Which of these statements are correct?

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Q :) In the time-cost analysis, the cost slope is defined as

(a) $\frac{Crash\ cost - Normal\ cost}{Crash\ time - Normal\ time}$

(b) $\frac{Crash\ time - Normal\ time}{Crash\ cost - Normal\ cost}$

(c) $\frac{Crash\ cost - Normal\ cost}{Normal\ time - crash\ time}$

(d) $\frac{Normal\ cost - crash\ cost}{Normal\ time - Crash\ time}$

Q :) Match List I (Cost) with List II (feature) and select the correct answer using the codes:

List I	List II
A. Optimal cost	1. Activity related
B. Overhead cost	2. Developed by crashing process
C. Direct cost	3. Project-related
D. Indirect cost	4. Contained in, or contributing exclusively to the related product

Codes:

(a) 4, 3, 2, 1

(b) 2, 1, 4, 3

(c) 4, 1, 2, 3

(d) 2, 3, 4, 1

Q :) Which one of the following is the correct sequence to analyze a project for implementation?

(a) Time-cost study, network, WBS, scheduling with resource allocation

(b) Network, Time-cost study, scheduling with resource allocation, WBS

(c) WBC, network, scheduling with resource allocation, Time-cost study

(d) WBS, Time-cost study, network, scheduling with resource allocation

Q :) In a construction project, the cost-slope of an activity is an indication of

(a) Extra-time needed

(b) Extra cost needed

(c) Reduction of duration of critical activity

(d) Crashing of an activity

Q :) Which of the following relations are correct for determining different components of a bid price?

1. Bid price = direct cost + Indirect cost + Mark up amount
2. Direct cost = Project overheads + Common plant and equipment cost + common work men cost.
3. Mark up amount = Profit + Contingency + Allowances for risks + General overheads.

A. 1, 2 and 3
B. 1 and 2 only
C. 1 and 3 only
D. 2 and 3 only

Q :) Indirect cost due to accidents includes

(a) Legal changes

(b) Medical expenses for the injured

(c) Compensation amount to the injured

(d) Over time payment to make up the loss of time

Q :) In resource levelling

(a) total duration of project is reduced

(b) total duration of project is increased

(c) uniform demand of resources is achieved

(d) cost of project is controlled

Q :) Which of the following are the possible changes during the updating of the project network?

1. Change in the duration of an activity.
2. Addition or deletion of an activity.
3. Change in the logical relationships among the activities.

Select the correct answer using the codes given below:

Codes:

(a) 1,2 and 3
(b) 1 and 2
(c) 2 and 3
(d) 1 and 3

Q :) Which one of the following is the base for resource levelling'?

(a) Delaying the completion of critical activities

(b) Delaying the start of non-critical activities

(c) Reducing completion time of critical activities

(d) Not delaying the completion of critical activities

Q :) What is the process of incorporating change Sand rescheduling or replanning called?

(a) Resource allocation

(b) Resource smoothing

(c) Resource levelling

(d) Updating

Q :) Consider the following statements:

1. The resources are considered to be unlimited.
2. The resources are considered to be limited.
3. The start times of some of the activities are 3SO shifted within their available floats that the uniform demand is created for the resources.

Which of the above statements is/are correct?

(a) 1 only
(b) 1, 2 and 3
(c) 1 and 3 only
(d) 2 and 3 only

Q :) Resource smoothing is

(a) An optimization and economical utilization of resources.

(b) An adjustment of resources without affecting project duration.

(c) A gradual increase in resources.

(d) A gradual decrease in resources.

Q :) Which system of network given below completely eliminates the use of dummy activities?

(a) A-O-A (Activity-on-Arrow)

(b) A-O-N (Activity-on-Node)

(c) PERT

(d) CPM

Statement (I) : AON networks do not generally have any dummy links.
Statement (II): Links express activity dependencies exhaustively and completely.

Q :) Cost-benefit studies are essential to

(a) assess the total cost of the work

(b) Ascertain the relevant escalation in prices

(c) monitor the expenditure

(d) evaluate the viability and worth whileness of taking up the project

Q :) Sensitivity analysis is a study of

(a) Comparison of profit and loss

(b) Comparison of assets and liabilities

(c) Change in output due to change in input

(d) Economics of costs and benefits of the project

Q :) Match List-I With List-II

List-I	List-II
A. Derrick	1. Stone masonry work
B. Claw hammer	2. Wood work
C. Chain-Lewis	3. Steel work
D. Drop-hammer	4. Concrete compaction
	5. Pile foundation

Codes:

A B C D

(a) 1, 3, 5, 4

(b) 2, 3, 4, 5

(c) 3, 1, 5, 2

(d) 3, 2, 1, 5

Q :) Grader is used mainly for

(a) Trimming and finishing

(b) Shaping and trimming

(c) Finishing and shaping

(d) Finishing, shaping and trimming

Q :) Which one of the following is NOT an excavating and moving type of equipment?

(a) Clam shell

(b) Bulldozer

(c) Dump truck

(d) Scraper

Q :) The most suitable type of equipment for compaction of cohesive soils is

(a) Smooth-wheeled rollers

(b) Vibratory rollers

(c) Sheep foot rollers

(d) Tampers

Q :) For excavating utility trenches with precise control of depth, the excavation equipment used is

(a) Shovel

(b) Hoe

(c) Dragline

(d) None of these above

Q :) The basic action involved in sheep foot rolling is

(a) Pressing

(b) Kneading

(c) Vibration

(d) Tamping

Q :) For three-dimensional movement of a weight, which one of the following is most suitable?

(a) Chain hoist

(b) Winch

(c) Jack

(d) Crane

Q :) Vibratory rollers are more useful for compacting which of the following?

(a) Silty soils

(b) Sandy soils

(c) Mixed soils

(d) Clay soils

Q :) Bottom-dump wagons are suitable for handling which of the following?

(a) Wet sticky clay

(b) Sand and gravel

(c) Mixed soils

(d) Quarry rocks

Q :) Which one of the following shovel excavators is considered most efficient in loading carriers?

(a) Dragline

(b) Dipper shovel

(c) Clamshell

(d) Backhoe

Q :) Functional organization' system of working was introduced by

(a) Henry Gantt

(b) F.W. Taylor

(c) M.R. Walker

(d) J.E. Kelley