

POSTAL Book Package

2023

CIVIL ENGINEERING

Construction, Planning and Management

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Construction, Planning and Management

Q.1 Which of the following is not a weakness of bar chart?

- (a) Suitable only for small job.
- (b) Cost control cannot be achieved.
- (c) Optimum use of men and machines cannot be done.
- (d) None of these

Q.2 Preliminary project report for a road project must contain

- (a) the detailed estimated cost based on detailed design
- (b) the several alternatives of the project that have been considered
- (c) the soil survey, traffic survey, concept design and approximate cost
- (d) the contract documents for inviting tenders

Q.3 A serious limitation of interdependencies between various activities is generally observed in

- (a) bar charts (b) milestone charts
- (c) network analysis (d) job layouts

Q.4 Consider the following statements:

1. Pre-qualification of tenders is not required in case of bigger and complex project.
2. The project promoter is not liable to make any payment to the sub-contractor.

Which of the above statements is(are) CORRECT?

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

Q.5 Match **List-I** (Indications of terms) with **List-II** (Terms) and select the correct answer using the codes given below the lists:

List-I

- A.** Used for recording instructions given by the Executive Engineer at site
- B.** Used widely for civil engineering construction
- C.** One of the principles of organizations
- D.** One of the functions of management

List-II

1. Coordination
2. Unity of command
3. Line organization
4. Site order book

Codes:

	A	B	C	D
(a)	4	3	2	1
(b)	4	2	3	1
(c)	1	4	1	3
(d)	4	1	2	3

Q.6 Consider the following statements:

Work breakdown structure formulation is based on the following considerations:

1. Intended project duration.
2. Clustering of activities in zone project area.
3. Profitability of activities.

Which of these statement/s is/are correct?

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

Q.7 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

Directions : Each of the next items consists of two statements, one labelled as 'Statement (I)' and the other as 'Statement (II)'. Examine these two statements carefully and select the answers to these items using the codes given below:

Codes:

- (a) Both Statement (I) and Statement (II) are individually true; and Statement (II) is the correct explanation of Statement (I)

- (b) Both Statement (I) and Statement (II) are individually true; but Statement (II) is NOT the correct explanation of Statement (I)
(c) Statement (I) is true; but Statement (II) is false
(d) Statement (I) is false; but Statement (II) is true

Q.8 Statement (I): Interdependence between various events is shown on a milestone chart.

Statement (II): Milestones are key events in time which occur as the project progresses.

Q.9 Statement (I): Time cost studies have to be firmed up before the EOQ and ABC analysis can be undertaken.

Statement (II): Time cost studies can be premised on no bottlenecks or shortages in materials procurement.

Q.10 Match **List-I** with **List-II** and select the correct answer using the codes given below the lists:

List-I (Bar chart)

- A. Milestone bar chart
- B. Linked bar chart
- C. Gantt bar chart
- D. Resource-based bar chart

List-II (Highlights : and is adapted for)

- 1. Computation of resource histograms
- 2. Activity relationships
- 3. Updating and re-railing
- 4. Activity duration
- 5. Monitoring and interfaces

Codes:

- | | A | B | C | D |
|-----|---|---|---|---|
| (a) | 3 | 2 | 4 | 1 |
| (b) | 5 | 2 | 4 | 1 |
| (c) | 3 | 4 | 2 | 5 |
| (d) | 5 | 4 | 3 | 1 |

Q.11 Consider the following statements regarding Tenders:

- 1. Tender notice contains documents regarding cost of project, drawings of project, time of completion etc.
- 2. Security money is deposited by all the bidders.

Which of the above statement(s) is(are) CORRECT?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) None of the above

Q.12 Consider the following statements regarding contract:

- 1. It is an agreement.
- 2. This agreement must be enforceable by law.
- 3. 'Liquidated damages' is a clause which ensures the completion of project as per original schedule.

Which of the above statement(s) is(are) CORRECT?

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

Q.13 Consider the following statements regarding Gantt Chart.

- 1. It gives comparison of actual progress with scheduled progress.
- 2. It gives idea about physical progress of project.
- 3. It also gives idea about financial aspect.

Which of the above statements are CORRECT?

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

Q.14 Consider the following statements about work-break down structure (WBS):

- 1. In WBS, top down approach is adopted.
- 2. Facilitates and improve the decision making for procurement of resources.
- 3. Coordinates regarding milestone events across trade specializations to improve the synergy between the trade.

Which of the above statements are CORRECT?

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

Q.15 Consider the following statements :

- 1. Ladder network(s) can interrupt into CPM AOA network.
- 2. Interface nodes can, if so mandated, be connected to identified nodes of a ladder network.
- 3. Ladder networks enable uninterrupted utilization of equipment.
- 4. Critical path through a ladder network can easily be deciphered.

Which of the above statements is/are CORRECT?

- (a) 1 only
- (b) 2 and 3 only
- (c) 3 and 4 only
- (d) 1, 2 and 4

Q.16 Consider the following statements:

1. A bar chart does not show the progress of work and hence it cannot be used as a control device.
2. Network diagram can be used even for highly complicated projects consisting of a large number of activities.

Which of the above statements is(are) INCORRECT?

- (a) Both 1 and 2 (b) 1 only
(c) 2 only (d) Neither 1 nor 2

Q.17 Which of the following statements are CORRECT?

1. Line of balance technique is useful for planning the construction of a number of similar structures.
 2. Critical path is the shortest path in the project network.
 3. Gantt chart can't identify critical activities.
- (a) 1, 2 and 3 (b) 1 and 2
(c) 2 and 3 (d) 1 and 3

Q.18 Which of the following statements is(are) CORRECT?

1. Tender is an agreement enforceable by law.
 2. Arbitration is the process of the settlement of a dispute by impartial referees agreed upon by the parties concerned.
- (a) Both 1 and 2 (b) 1 only
(c) 2 only (d) Neither 1 nor 2

Q.19 Consider the following statements in the bar chart planning

1. interdependence of the operations cannot be portrayed
2. progress of work can be measured
3. spare time of the activities can be determined
4. schedule cannot be updated.

Which of these statements are correct?

- (a) 1, 2 and 3 (b) 1 and 4
(c) 2, 3 and 4 (d) 1, 2 and 4

Q.20 In arriving at a resource-based schedule bar-chart for a construction project, the following stages for planning of the work are involved :

1. Finalising a network of activities.
2. Determine the optimal activity durations, and considering the relevant parameters.
3. Computation at time.
4. Developing the resource-based bar-chart and the corresponding histograms and mass curves of resources.
5. Identification of the critical constraining resource.
6. Deciding the criteria for optimisation.

The correct sequence of these stages in planning of the work will be

- (a) 1, 6, 2, 3, 5, 4 (b) 6, 2, 1, 3, 4, 5
(c) 1, 2, 3, 6, 5, 4 (d) 2, 1, 3, 5, 6, 4

Multiple Select Questions (MSQ)

Q.21 Which of the following statement(s) are essential conditions of contracts?

- (a) Competent parties
(b) Discrete subject matter
(c) Free consent
(d) Must not be declared void by the law in force.

Q.22 Consider the following statements regarding types of construction contracts and mark the correct options.

- (a) In cost plus percentage of cost contract, customer is at most risk of absorbing excessive cost overruns.
(b) In firm-fixed price contract, contractor is most likely to control costs.
(c) In firm fixed price with economic adjustments contract, the contractor is given relief for inflation.
(d) Fixed price contract requires maximum follow up on work.



Answers

Construction, Planning and Management

1. (d) 2. (c) 3. (a) 4. (b) 5. (a) 6. (d) 7. (d) 8. (a) 9. (b) 10. (b)
11. (a) 12. (d) 13. (a) 14. (d) 15. (b) 16. (d) 17. (d) 18. (c) 19. (a) 20. (a)
21. (a, c, d) 22. (a, b, c)

Explanations Construction, Planning and Management

2. (c)
Preliminary project report contains topographic details and soil survey along alternate alignments, consideration of geometric design and other requirements of alignment, preparation of plans and comparison of alternate routes, economic analysis and selection of final alignment.
3. (a)
In bar charts, inter-dependence between various activities is not shown.
4. (b)
Prequalification is a means of identifying contractors who indicate that they are qualified and would be interested in tendering for a potential project. Prequalification is primarily applied for large, complex projects that require specialised technical expertise.
6. (d)
Project duration = 2 + 12 + 3 + 4 = 21 days
8. (a)
About Milestone chart
 1. Modification over bar and linked bar chart
 2. Milestone are key event, which refers to the particular instant of time that occurs as project progress.
 3. Inter dependencies between the events can be shown on a milestone chart
 4. Uncertainty cannot be predicted in milestone chart.
9. (b)
Both statements are correct but reason is not explaining the assertion of the question, so option 'b' should be correct.
10. (b)
 - A **Gantt chart** is a tool used for project management. It is used to represent the timing of various tasks that are required to complete a project.
 - A **milestone chart** is used to depict key events along a timescale graphically. A milestone chart just depicts one added feature in the basic Gantt chart.
 - A variation of the **bar chart** is the **linked bar chart**. A linked bar chart uses arrow and lines to tie the activities and subsequent timer, specifying the successors and predecessors of every activity.
11. (a)
Security money is deposited by successful bidder only.
12. (d)
 - A contract is a mutual or legally binding agreement between two parties based on policies and conditions recorded in document form.
 - A construction contract is an important piece of document that outlines the scope of work, risks, duties and legal rights of both the contractor and the owner.
13. (a)
About Gantt chart
 1. In Gantt chart, activity independent of each other.
 2. Sequence of activity is not defined.
 3. No concept of cost optimisation, No idea about financial aspects
 4. No concept of critical activity.
15. (b)
2 and 3 only
A major limitation of ladder network is the difficulty in identifying activities on the critical path.
17. (d)
Critical path is the longest path in the project network.
18. (c)
Contract is an agreement enforceable by law.
19. (a)
About bar chart planning
 1. Here, the activities or operations are independent of each other
 2. Sequence of activity is not defined
 3. Difficulty in judgement, whether activity is completed or not
 4. No concept of cost optimisation
 5. Schedule cannot be updated
 6. Length of the bar shows the time required for the completion
 7. Resource requirement can be depicted.
21. (a, c, d)
Contracts should have lawful subject matter.