

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
First Semester (2023-24)
Comprehensive exam (Part-A)

Course No. CE 6527
Duration: 30 Min

Course Title: CPM
Max Marks: 20

Q.1 Choose the most appropriate answer:

[1× 6 =6.0]

i) Which of the following project delivery methods involves a single contract for both design and construction phases?

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|--|--------------------------------------|
| a) Design-Bid-Build (DBB) | b) Design-Build (DB) |
| c) Construction Manager at Risk (CMAR) | d) Integrated Project Delivery (IPD) |

ii) What is the primary purpose of a Gantt chart in construction project management?

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|---------------------------|------------------------|
| a) Cost estimation | b) Resource allocation |
| c) Schedule visualization | d) Risk assessment |

iii) In the context of construction safety, what does the acronym PPE stand for?

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|-----------------------------------|--------------------------------------|
| a) Project Planning and Execution | b) Personal Protective Equipment |
| c) Project Performance Evaluation | d) Process and Procedure Enhancement |

iv) Which scheduling technique allows for the evaluation of multiple project scenarios to identify the optimal schedule?

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|-------------------------------|---|
| a) Critical Path Method (CPM) | b) Program Evaluation and Review Technique (PERT) |
| c) Monte Carlo Simulation | d) Resource Levelling |

v) What is the purpose of a feasibility study in construction project management?

- a) To evaluate the environmental impact of the project
- b) To assess the financial viability of the project
- c) To determine the project's safety requirements
- d) To analyse the structural integrity of the proposed building

vi) In the context of construction contracts, what type of contract involves paying the contractor for their direct costs plus a percentage for overhead and profit?

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|-------------------------|--|
| a) Fixed-Price Contract | b) Cost-Plus-Fixed-Fee (CPFF) Contract |
| c) Lump-Sum Contract | d) Unit Price Contract |

Q.2 Answer the following questions briefly.

[2 x 7 =14]

- a) Explain the concept of the Critical Path Method (CPM) in project scheduling.?
- b) How does Program Evaluation and Review Technique (PERT) differ from the Critical Path Method (CPM)?
- c) What is resource allocation in project management, and why is it important?
- d) Define crashing in project management. When might a project manager consider crashing?
- e) How does resource levelling contribute to project success?
- f) Explain the concept of earned value in project cost control.
- g) What role does a cost baseline play in project cost control?