

KATHMANDU UNIVERSITY
End Semester Examination
January 2025

Marks Scored:

Level : B.E.

Year : IV

Exam Roll No. :

Time: 30 mins.

Course : CIEG 403

Semester : I

F. M. : 10

Registration No.:

Date : 23-Jan-25

SECTION "A"

[20Q. × 0.5 = 10 marks]

Choose the most appropriate answer and **encircle**.

1. An estimate of the potential profitability of a project can be called
 - a. An Appraisal of a project.
 - b. Feasibility studies.
 - c. A Detail Project Report.
 - d. Project formulation.
2. If you are to construct a multi-storey building you would prefer to plan with:
 - a. Gantt Chart.
 - b. Milestone Chart.
 - c. Line of Balance.
 - d. PERT.
3. The amount of leeway (the permissible margin for variation) available when an activity begins at the latest event time without delaying the early start of subsequent activity is called:
 - a. Total Float.
 - b. Free Float
 - c. Independent Float
 - d. Slack
4. Given, that all the costs of resources are constant, if the construction project is delayed:
 - a. Direct cost increases.
 - b. Indirect cost increases.
 - c. Subcontractor cost increases.
 - d. Contractor's profit increases.
5. Organizing, directing and monitoring of all aspects of the project is a
 - a. Part of management.
 - b. Part of planning.
 - c. Part of monitoring and Evaluation.
 - d. Part of control
6. After the notice for Bid is published if the employer intends to amend the Bid Document he can modify:
 - a. 3 days before the submission date.
 - b. 7 days before the submission date.
 - c. 15 days before submission.
 - d. Any time before the submission date
7. If the Employer does not want to invest but wants to get infrastructure built for the use, then s/he should go for:
 - a. Design-build contract.
 - b. Construction Management contract.
 - c. Build, Operate and Transfer contract.
 - d. Turnkey contract.
8. A bidder withdrew his bids 25 hours before the bid submission date and time. While opening the bids you would first open the bid-withdrawal letter, read out the content of the letter and:
 - a. return the bid unopened.
 - b. return the bid and release the security.
 - c. return the bid but forfeit the bid security.
 - d. retain the bid for further evaluation.
9. As per the 'Single Stage Two Envelope System' procurement procedure of the PPMO, the notice of force majeure should be given by any party to the other within:
 - a. 7days
 - b. 14 days
 - c. 15days
 - d. 21 days

10. If in Earned Value Analysis (EVA), the Cost Variance (CV) is positive then the project is:
 - a. over budgeted.
 - b. underbudgeted.
 - c. behind the schedule.
 - d. ahead of schedule.

11. Your construction site is in various locations with large marshy and weak soil area and needs transportation of materials, prefabricated members etc. Your best choice of equipment will be:
 - a. Crawler Crane
 - b. Hoisting Machine
 - c. Tower Crane
 - d. All Terrain Crane.

12. If a Civil contractor sublets an electromechanical part of a hydropower construction project to a relevant contractor it can be understood that he is:
 - a. Preventing the risk.
 - b. He is retaining the risk.
 - c. Transferring the risk.
 - d. Avoiding the risk.

13. If a Tower crane with a certain rating can lift a 10-tonne weight at a distance of 60m from the tower, how much weight would you recommend if the weight has to be lifted from a distance of 40m from the tower?
 - a. 10 tonne.
 - b. 12 tonne.
 - c. 15 tonne.
 - d. 18 tonne.

14. Any arrangement between two or more bidding parties designed to achieve improper purpose is called:
 - a. Corrupt practice.
 - b. Fraudulent practice.
 - c. Coercive practice.
 - d. Collusive practice.

15. To fully establish a claim with evidence in a construction project is called:
 - a. Claim notification.
 - b. Claim identification.
 - c. Claim substantiation.
 - d. Claim management.

16. The study shows that the maximum number the highest cause of accidents at construction site is:
 - a. Fall from height.
 - b. Strike by moving object.
 - c. Collapse of temporary structure.
 - d. Electric shocks.

17. As per the GCC of the SBD of PPMO, the condition where both the contracting parties are relieved from their obligation is called:
 - a. Interim termination
 - b. Force Majeure.
 - c. Contract frustration.
 - d. Fundamental breach of contract.

18. If you intend to compact a sandy soil up to 10 to 20 meters deep your best choice would be:
 - a. Vibratory steel roller.
 - b. Dynamic compactor.
 - c. Sheep foot roller.
 - d. Impact roller.

19. Anything that has the potential to cause harm to people or property is called:
 - a. Risk
 - b. Hazard.
 - c. Accident.
 - d. Vulnerability.

20. Any unplanned, unintended, unexpected, unwanted occurrence of an event is called:
 - a. Accident.
 - b. Risk.
 - c. Hazard.
 - d. Hazardous event.

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Level : B.E.
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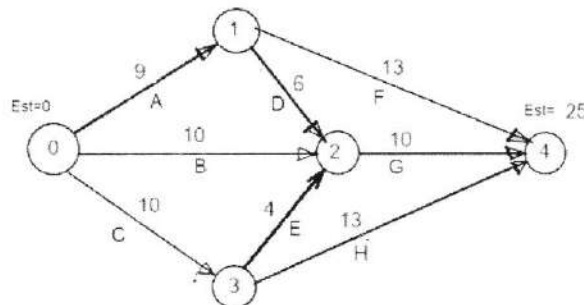
23-Jan-2025

Course : CIEG 403
Semester : I
F. M. : 40

SECTION "B"
[40 marks]

Attempt *ALL* questions.

1. What do you understand by quality? Explain quality cost curves. Is it a worthy decision to increase the quality level of a product, to reduce failure cost to zero? Explain in your own words. [5]
2. What do you understand by planning? Why is planning important in construction projects? If you are planning a construction project, what resources would you plan and how? [5]
3.
 - a. Define the monitoring and monitoring cycle of a construction project. What are the benefits of monitoring?
 - b. A construction project with a CPM network was planned as follows.



Upon reaching the construction site at the end of the 11th week, you found the following information:

- i. Activities A, B, and C are complete.
 - ii. Activities D and E will take 5 and 6 months respectively.
 - iii. Activities F and H will be completed in the previous stipulated duration (i.e.13 weeks).
 - iv. Activity G's duration has been revised from 10 to 11 weeks
- Find the project's new critical activities and the project's new completion date with the new network. [6+6]

4. What do you understand by Risk? If you are a construction manager how would you identify, analyze, and prepare a risk management plan? [6]
5. Write short notes on (**ANY FOUR**). [12]
 - a. Characteristics of a project with examples with hydropower project.
 - b. BOT/ BOOT contract and its benefits in Nepal.
 - c. Project-specific criteria for selecting machines and equipment.
 - d. 'Average Annual Construction Turnover' and 'Historical Financial Performance' as bidder's qualification criteria as per PPMO document.
 - e. Crashing a construction project and its implications.

