DEPARTMENT OF CIVIL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY DELHI

Session	Even Semester, AY 2022-23
Program(s)	M. Tech. - Construction Technology and Management [CEC] M. Tech. - Construction Engineering and Management [CET]
Course	**CVL 776 - Construction Practices and Equipment**
Major Exam	Maximum Marks [Weightage] - 40 Marks [40%]
Thu, 04-May-2023	08:00 AM - 10:00 AM [02-Hr.]

Instructions

- Attempt all questions. Keep your answer(s) brief and relevant.
- Assume any missing data/information suitably, **highlight** your assumptions (if any).
- Ensure that your response is: [1] Concise and systematic; [2] Based on course discussions and learnings; and [3] Neat (legible) and efficient (time management)
- Supplementary sheet(s) are not required, students must write the responses accordingly.

Ques. No.	Question Description	Max. Marks
Q. 1 #	Discuss about need of formwork in concrete construction and objectives (good) formwork systems must satisfy. Further, discuss whether absolute precision (accuracy) is necessary in formwork design? [Justify your answer, i.e., Yes / No] Also, discuss about the salient causes of formwork failure and briefly comment on triggering, enabling, and procedural causes of formwork failure. Further, list some safe construction practices, checklists, and recommendations to avoid formwork failures.	3 + 3 + 4 = 10
Q. 2 #	Explain the process of concreting and list (state) some common equipment involved at various stages of concreting. Briefly comment on the concerns associated with hot and cold weather concreting.	4 + 4 + 2 = 10
Q. 3 #	Discuss about practices and equipment (including tools) which in your opinion are foundational (basis) for innovative and futuristic developments (impact) in construction sector (industry/ practice). Also mention how these (stated) practices and equipment (will/can) contribute to sustainable construction (practices). ***Note:*** *Be creative, imaginative, and aspirational, yet remain realistic and practical (consider cost, time, quality, and safety aspects).*	3 + 2 = 05

Ques. No.	Question Description	Max. Marks
Q. 4 #	You are a project manager at a construction company that has been contracted for construction of a multi-storey tower with 6-7 levels of underground construction (for parking and storage) in a constrained location (i.e., project site is in a crowded neighbourhood). In addition, the construction company wants to deliver this project with-in 02 (two) years' time to build (establish/strengthen) their reputation and to be eligible for (significant) monetary incentives as per the contract. Accordingly, as project manager: [A]. Discuss various construction practices in order of execution (sequence) that you will consider, evaluate, and adopt (implement) for successful delivery of this project. [B]. State construction equipment(s) which would be essential (critical) for successful delivery of this project.	7 + 3 = 10
Q. 5 #	Various guidelines (codes of practice, standards, manuals, etc.), concepts (green buildings, sustainable development, life cycle cost, digitization, etc.), practices (BIM, 3-D printing for construction, etc.) have been introduced/mentioned/discussed during the course sessions. Course was delivered with focus on breadth (and not depth) of content. Relevant online news articles and/or write-ups were also discussed in the context of construction practices, equipment, and management. Based on your course participation, please state the following: [A]. Three (03) key learnings from the course [B]. Three (03) main shortcomings of the course [C]. Three (03) primary areas for improvement of the course Further, briefly comment on: [D]. Additional topics that must be included in the course [E]. Need for hands-on/practical/field component in the course	[3+2] × 01 = 05

End of Question Paper

Hope you enjoyed the course interactions, learnings, and assessments!!

Best always,

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