

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S5 (R,S) (FT/WP/PT) Examination November 2025 (2019 Scheme).

Course Code: CET309**Course Name: CONSTRUCTION TECHNOLOGY AND MANAGEMENT**

Max. Marks: 100

Duration: 3 Hours

*Instructions: Use of standard normal distribution table is permitted***PART A***(Answer all questions; each question carries 3 marks)*

Marks

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| 1 | Distinguish between fibre-board and plywood. | 3 |
| 2 | What is bulking of fine aggregate? Explain its significance. | 3 |
| 3 | Explain any three methods of compacting the concrete. | 3 |
| 4 | Write a note on Damp Proof Course (DPC). What is its importance? | 3 |
| 5 | State the requirements of an ideal formwork. | 3 |
| 6 | Discuss the causes of failure in masonry structures. | 3 |
| 7 | What is feasibility study? Explain its importance. | 3 |
| 8 | Distinguish between tender and contract. | 3 |
| 9 | Write a note on the Work break down structure. | 3 |
| 10 | What are the three time estimates of activity in PERT? | 3 |

PART B*(Answer one full question from each module, each question carries 14 marks)***Module -1**

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| 11 | Explain any three lab tests on cement. Write the relevant IS specifications for OPC. | 14 |
| 12 | a) Describe the properties and uses of any two mineral admixtures in concrete. | 9 |
| | b) Write a note on the quality of water for concrete making. | 5 |

Module -2

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|----|---|---|
| 13 | a) Define workability. Explain the slump test to determine the workability of concrete. What are the factors that affect the workability of concrete? | 9 |
| | b) Distinguish between plastering and pointing. | 5 |
| 14 | a) What are the advantages and disadvantages of RCC and steel framed structures? | 9 |
| | b) Write the significance of curing the concrete. Explain any two methods. | 5 |

Module -3

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| 15 | a) Explain the technology of rapid wall construction. What are its advantages and limitations? | 9 |
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- b) Write a brief note on the basic concept of prestressing concrete. 5
- 16 a) List the various causes of failure in RCC structures. Explain any three. 9
- b) Discuss the uses and classification of scaffolding. 5

Module -4

- 17 a) Explain in detail, with suitable graphical illustrations, the life cycle of a construction project. 9
- b) Discuss various types of tenders. 5
- 18 a) What is notice inviting tender? Mention its contents. 9
- b) Distinguish between Earnest Money Deposit (EMD) and Security Deposit (SD). 5

Module -5

- 19 For the given data, draw an AON network and determine the critical path and project duration. Also find the total float, free float and independent float of each activity. 14

Activity	A	B	C	D	E	F	G	H
Predecessor	-	A	A	A	B	B	D, E	C
Duration (in days)	5	10	8	12	7	4	5	8

- 20 Draw an AON network and determine the expected project completion time for the project with activity times as given in the following table. Also, determine the probability of completing the project in 43 days. Within how many days would you expect the project to be completed with a probability of 95%? 14

Activity	A	B	C	D	E	F	G
Predecessor	-	A	B	B	D	C, E	E
Optimistic time (days)	6	4	3	4	2	2	7
Most likely time (days)	8	4	3	11	9	8	15
Pessimistic time (days)	10	10	3	12	10	14	17
