

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

CLASS: BTECH.
BRANCH: CIVIL

SEMESTER : IV
SESSION : SP/2025

SUBJECT: CE209 CONSTRUCTION ENGINEERING AND MANAGEMENT

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	What are the phases of construction project ? Briefly discuss the significance of each phase.	[5] 1	II
Q.1(b)	Write the important traits of a project coordinator.	[5] 1	II
Q.2(a)	Fill in the blanks (show the calculations): i) Rs. 50,000 payable at the end of 10 years is equivalent to Rs. _____ at present at an interest rate of 10 %. ii) At an interest rate of _____ %, Rs. 5 lakh invested today will be worth Rs. 10 lakh in 9 years.	[5] 2	IV
Q.2(b)	Compute the economical alternative for a concrete mixer considering the alternatives given below at an interest rate of 10% per year. Alternative-1: Initial purchase cost = Rs.300000, Annual operating and maintenance cost = Rs.20000, Expected salvage value = Rs.125000, Useful life = 5 years. Alternative-2: Initial purchase cost = Rs.200000, Annual operating and maintenance cost = Rs.35000, Expected salvage value = Rs.70000, Useful life = 5 years. The annual revenue to be generated from production of concrete (by concrete mixer) from Alternative-1 and Alternative-2 are Rs.50000 and Rs.45000 respectively.	[5] 2	V
Q.3(a)	Separate out activities and events from the following list: i) Prepare budget ii) Design completed iii) Lay railway track iv) Commence testing soil v) Assembly the machine parts	[5] 3	III
Q.3(b)	Draw the network for a project having four activities labelled A, B, C and D. The inter relationships between the above activities are as follows: i) Activity A and activity B can be done concurrently. ii) Activity A is the immediate predecessor of activity C, and so is the relation between B and D. iii) Accomplishment of C and D marks the completion of the project.	[5] 3	V
Q.4(a)	Discuss General and the special conditions of contract.	[5] 4	III
Q.4(b)	Discuss different modalities of Submission of Bids.	[5] 4	III
Q.5(a)	What are the sources of information needed for successful completion of a project ?	[5] 5	II
Q.5(b)	What is the importance of information in the context of a project ?	[5] 5	II