

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

**CLASS: BTECH.
BRANCH: BT/CE/CSE**

**SEMESTER: IV
SESSION : SP/2025**

SUBJECT: PE309 PROJECT 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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| Q.1(a) Explain the important characteristics of project. | [5] | 1 2 |
| Q.1(b) Explain the various stages of the project life cycle. | [5] | 1 2 |

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| Q.2(a) Discuss the various aspects of project appraisal. | [5] | 2 2 |
| Q.2(b) Discuss the essential attributes of a good project manager. | [5] | 2 2 |

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| Q.3(a) Discuss the various factors of Environmental considerations in project evaluation. | [5] | 3 2 |
| Q.3(b) Explain social cost-benefit aspects of the projects. Also, enumerate the needs, objectives and limitation of social cost-benefit analysis. | [5] | 3 2 |

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| Q.4(a) Define Activity-on-node (AON) network diagram? Draw the AON diagram for the following data: | [5] | 4 2 |
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Activity	A	B	C	D	E	F	G
Immediate Predecessors	---	A	A	B	B, C	C	D, E, F
Duration (Weeks)	5	4	7	6	6	7	7

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| Q.4(b) Determine the critical path for the activity given below: | [5] | 4 3 |
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Activity	1-2	1-3	2-6	3-4	3-5	4-6	5-6	5-7	6-7
Duration (days)	4	6	8	7	4	6	5	19	10

Calculate: EST,LST.EFT,LFT and TF for each activity.

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| Q.5(a) Differentiate between PERT and CPM? And draw a network to represent the project based on given data: | [5] | 5 2 |
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Activity	1	2	3	4	5	6	7	8	9	10	11
Immediate Predecessors	---	1	1	3	2, 3	4, 5	5	7	6	9, 8	10

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| Q.5(b) Project schedule has the following Characteristics: | [5] | 5 3 |
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Activity	1-2	1-3	1-5	2-3	2-6	3-4	3-5	4-5	5-6
t_o	3	2	2	1	7	1	2	1	1
t_m	5	3	3	2	8	3	4	2	2
t_p	8	5	4	5	9	6	6	4	3

- (a) Construct the project network.
- (b) Find expected duration and variance for each activity.
- (c) Find the critical path and expected project length.