

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

**CLASS: B.TECH
BRANCH: CIVIL/CHEMICAL/EEE/ECE/IT/MECH**

**SEMESTER : IV
SESSION : SP/2023**

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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		CO	BL
Q.1(a) Summarize the various stages of project life cycle.	[2]	1	1
Q.1(b) What are the causes of delay of the projects? How you can eliminate them?	[3]	1	4
Q.1© What do you understand by projects? Discuss its need. Explain the factors which should be taken into account while developing a new project.	[5]	1	4
Q.2(a) List the key elements of Organization Structure.	[2]	2	1
Q.2(b) Discuss the roles and responsibilities of a project manager.	[3]	2	2
Q.2(C) Explain the various factors to be considered in Project Appraisal.	[5]	2	4
Q.3(a) State the feasibility analysis of a project?	[2]	3	2
Q.3(b) Explain the factors affecting Social Cost Benefit analysis.	[3]	3	2
Q.3(C) Enumerate the Importance of Environmental consideration in project evaluation.	[5]	3	4
Q.4(a) Define Activity-on-node (AON) network diagram?	[2]	4	1
Q.4(b) Discuss the rules for network construction.	[3]	4	2
Q.4(C) Determine the critical path for the activity given below:	[5]	4	4
Initial Node	1 1 2 2 3 3 4 4 5		
Final Node	2 3 3 4 5 6 5 6 6		
Duration(Days)	5 6 3 8 2 11 0 1 12		
Calculate: EST,LST.EFT,LFT, FF and TF for each activity.			
Q.5(a) Differentiate between PERT and CPM?	[2]	5	2
Q.5(b) Tasks A,B,C,....H,I constitute a project. The precedence relationship are. A<D; A<E; B< F; D <F; C<G; C<H; F< I; G< I. Draw a network to represent the project.	[3]	5	3
Q.5(C) A small project is composed of nine activities whose time estimates (days) are listed in the following table:	[5]	5	4
Activity t0	tp	tm	
1-2	5	10	8
1-3	18	22	20
1-4	26	40	33
2-5	16	20	18
2-6	15	25	20
3-6	6	12	9
4-7	7	12	10
5-7	7	9	8
6-7	3	5	4
Find the expected duration and variance of each activity.			
What is the probability that project will be completed:			
(i)	At least 5 days before the expected time.		
(ii)	No more than 5days later than expected time.		