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

CLASS: BE/BARCH **SEMESTER : V**
BRANCH: ALL **SESSION : MO/17**

SUBJECT: PE5011 PROJECT ENGINEERING

TIME: 3 HOURS **FULL MARKS: 60**

INSTRUCTIONS:
1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
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.

Q.1(a) Define project. What is the importance of project management? [2]
Q.1(b) Differentiate between project and operation. [4]
Q.1(c) Explain the project life cycle in detail [6]

Q.2(a) What is project manager and why it is needed? [2]
Q.2(b) Explain anatomy of project. [4]
Q.2(c) Elaborate the responsibilities of project manager. [6]

Q.3(a) What is project commissioning? [2]
Q.3(b) Discuss the importance of technical appraisal and financial appraisal in the feasibility study. [4]
Q.3(c) What do you mean by social costs and social benefit? What are the significances of social cost-benefit analysis? Briefly explain them. [6]

Q.4(a) Define budget, budgeting and budgetary control. [2]
Q.4(b) Explain the different cost types used for creating the project budget. [4]
Q.4(c) Explain the various types of project management structures. [6]

Q.5 A project schedule has the following characteristics:

ctivity	Time (Week)
1-2	4
1-3	1
2-4	1
3-4	1
3-5	6
4-9	5
5-6	4
5-7	8
6-8	1
7-8	2
8-10	5
9-10	7

(a) Construct the project network. [3]
(b) Calculate Earliest start time, Latest start time, Earliest finish time and Latest finish time. [4]
(c) Calculate Total float, Independent float, Free float and identify critical path. [5]

Q.6 The following table gives data on normal time and cost and crash time and cost for a project:

Activity	Normal		Crash	
	Time (days)	Cost (Rs.)	Time (days)	Cost (Rs.)
1-2	6	60	4	100
1-3	4	60	2	200
2-4	5	50	3	150
2-5	3	45	1	65
3-4	6	90	4	200
4-6	8	80	4	300
5-6	4	40	2	100
6-7	3	45	2	80

The indirect cost per day is Rs. 10.
(a) Draw the network for the project. [4]
(b) Find the critical path. [2]
(c) Determine optimal and minimum total time and corresponding cost. [6]

PTO

Q.7 Write short notes on any two of the following: [6x2]

Q.7(a) Resource levelling

Q.7(b) Line of balance

Q.7(c) Project documentation

:::::06/12/2017:::::E