Reg. No.										

MANIPAL UNIVERSITY

FIFTH/EIGHTH SEMESTER B. ARCH. DEGREE EXAMINATION – NOVEMBER 2017

SUBJECT: ARC-14-307: PROJECT MANAGEMENT (2014 SCHEME)
ARC 406.2 : PROJECT MANAGEMENT & VALUATION (2010 SCHEME)

Saturday, November 11, 2017

Time: 14:00 – 17:00 Hrs. Max. Marks: 50

Answer any FIVE full questions.

1A. What is scheduling? What are the advantages of scheduling?

1B. Explain with an example the work breakdown structure.

1C. Mention any six areas of project management.

(4+3+3 = 10 marks)

2A. What is a network?

2B. Mention the types of events.

2C. Explain with neat diagram the successor event and predecessor event.

2D. Explain with an example the bar chart and the milestone chart.

2E. Draw the network diagram for the relationship of activities of a project;

i) *A, B and C occurs simultaneously,*

ii) *D succeeds A,*

iii) *E & G succeeds B,*

iv) *F & H succeeds C,*

v) *J can start only after F & G are completed,*

vi) *M starts after the completion of I & J,*

vii) *K succeeds H,*

viii) *M & L are the last activities.*

(2+2+2+2+2 = 10 marks)

3A. Activities A, B, C and D are serial activities in a project. The activities are represented by events as A – (1,2); B – (2,3); C – (3,4) and D – (4, 5). The time estimates of activities are: (A: 4-6-8); (B: 5-9-13); (C: 7-9-15); (D: 3-5-8).

Determine the following:

i) Network representing activities, events and time estimates

ii) Expected time (t_e) of the activities

iii) Total duration of the path

3B. A project consists of the following activities;

Activity	Duration (Days)
10 – 20	13
10 – 30	12
20 – 40	2
30 – 40	8
20 – 50	15
40 - 50	2

i) Draw the network diagram.

ii) Calculate earliest expected time and latest allowable occurance time

iii) Calculate slack

iv) Calculate total project duration

(5+5 = 10 marks)

4. Draw the network for the activities given below. Determine the following for the project.

4A. Calculate the total float for all the activities.

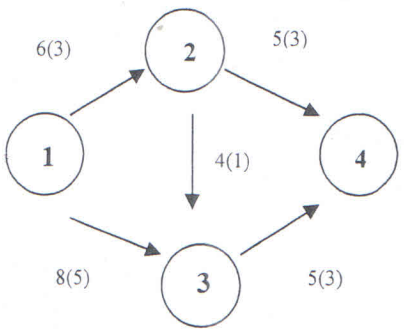
4B. Determine the critical path

4C. Total duration of the project.

Activity	Duration in days	Activity	Duration in days
1-2	8	4-7	0
1-3	10	5-6	4
1-4	5	5-7	3
2-7	6	5-8	6
3-4	3	6-8	5
4-5	7	7-8	5

(10 marks)

5. The duration and costs for each activity of a project network is given below. The indirect cost of the project is ₹ 1500/week. Determine the optimum duration of project and the corresponding minimum cost. Draw the time scaled version of the network.



Activity	Normal Duration (weeks)	Normal Cost ₹.	Crash Duration (week)	Crash Cost ₹
1-2	6	7500	3	15000
1-3	8	4500	5	9000
2-3	4	6500	1	9500
2-4	5	8500	3	15500
3-4	5	5500	3	11500

(10 marks)

6A. Explain the following terms: Direct cost and Indirect cost.

6B. Explain in brief the importance of budgeting and cost controlling in construction projects.

6C. Explain direct cost time curve.

(4+3+3 = 10 marks)