Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B. ARCH. DEGREE EXAMINATION – NOVEMBER 2019

SUBJECT: ARC-14-307: PROJECT MANAGEMENT

(2014 SCHEME)

Monday, November 11, 2019

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

- **Answer any FIVE full questions.**
- **Any missing data can be suitably assumed.**
- **Answer all parts of a question.**

1A. List down any four knowledge areas of project management.

1B. Describe any two different types of scheduling used in project management.

1C. What are project constraints? List down the different project constraints.

(2+4+4 = 10 marks)

2A. Define Events and Activities in a network. How are they represented in an AOA network diagram? Explain with illustrations.

2B. What is project life cycle? List down all stages of a project. Describe any two stages of a project.

(4+6 = 10 marks)

3A. Mention any three differences between CPM and PERT.

3B. List down the four types of activity times. Define each of them with formulas.

(3+7 = 10 marks)

4A. What do you mean by project stakeholders? Explain with examples.

4B. Draw the A-O-A network diagram for the activities given below and calculate the following:

i) Earliest and Latest Activity Times

ii) Total Float

iii) Critical Path

iv) Total project duration

Activity	Duration
1 – 2	5
1 – 3	4
1 – 4	7
2 – 4	8
3 – 4	3
4 – 5	2
4 – 6	5
5 – 6	4

(3+7 = 10 marks)

5A. List down any four roles of a project manager.

5B. The direct cost of the project is ₹ 3000 per week. Determine the optimum duration of the project and the corresponding minimum cost. Draw the time scaled version of the network at each stage of crashing.

Activity	Normal duration (weeks)	Normal cost in ₹	Crash duration (weeks)	Crash cost in ₹
1 – 2	6	7000	3	15000
1 – 3	8	4000	5	8500
2 – 3	4	6000	1	9000
2 – 4	5	9000	4	15000
3 – 4	5	5000	3	12000

(4+6 = 10 marks)

6A. What do you mean by a precedence diagram? How is it different from an AOA diagram?

6B. A construction project consists of 12 activities. The predecessor relationships are identified by their node numbers as indicated below. Draw a precedence diagram.

Activity	Identification
A	1 – 2
B	2 – 4
C	2 – 3
D	2 – 7
E	3 – 4
F	3 – 5
G	4 – 6
H	5 – 6
I	5 – 7
K	6 – 8
L	8 – 9
M	9 – 10

6C. Describe 'Cost-slope' with illustrations.

(3+4+3 = 10 marks)