Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B. ARCH. DEGREE EXAMINATION – DEC 2019/JAN 2020

SUBJECT: ARC-14-307: PROJECT MANAGEMENT

(2014 SCHEME)

Tuesday, January 07, 2020

Time: 10:00 – 13:00 Hrs. Max. Marks: 50

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

1A What is scheduling? Briefly explain advantages of scheduling.

1B Briefly explain responsibilities of project manager in a construction project.

1C What is work breakdown structure explain with an example?

(4+3+3 = 10 marks)

2A The below activities are of a project. Prepare a bar chart & determine total time taken for completion of the project.

Activity	Duration (Weeks)
J	3
K	4
L	5
M	5
N	3
O	6
P	2

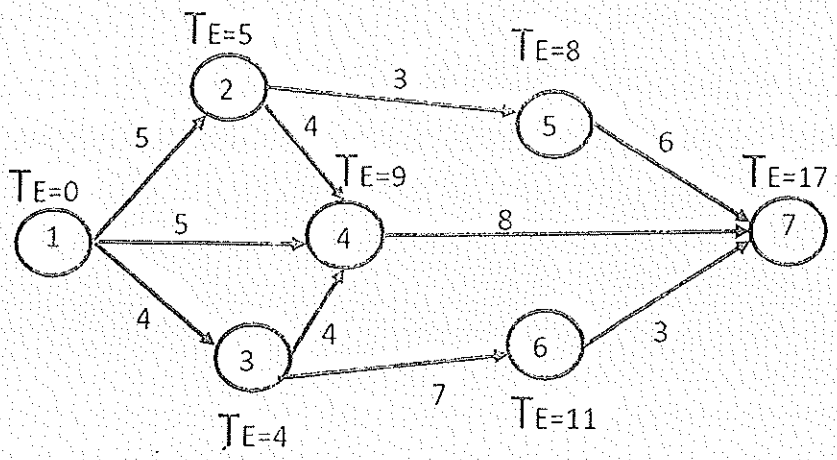
- Activity J represents the first activity
- Activity K & L are parallel activities & succeeds activity J
- Activity M starts only after activity K ends
- Activity N cannot begin until activities K & L are completed
- Activity O can start only after activities M & N are completed
- Activity P is the last activity & commences after completion of activity N

2B Explain with example bar chart & milestone chart.

(6+4 = 10 marks)

3A Differentiate between CPM & PERT.

3B Calculate Latest Allowable Occurrence (T_L), Float and Critical Path for the network given below.



(4+6 = 10 marks)

4. Draw A-O-A and A-O-N network for the activities given below. Calculate the following:
   i) Slack ii) Critical path iii) Total duration for the project

Activity	Identification	Duration in days
A	1 – 2	4
B	1 – 6	2
C	2 – 3	5
D	2 – 4	3
E	3 – 5	6
F	4 – 5	4
G	6 – 7	3
H	7 – 8	2
I	5 – 8	2

(3+3+2+1+1 = 10 marks)

5A Explain the terms Direct cost & Indirect cost.

5B With diagram's explain how relationship is represented in A-O-N Network.

(5+5 = 10 marks)

6A Explain with Network-Dual role, burst and merge events.

6B Briefly explain importance of Controlling in construction management.

6C What are the three estimates required for PERT analysis? How would you use these estimates to compute expected activity times & variance in activity time?

(3+2+5 = 10 marks)