

**PROJECT PLANNING AND MANAGEMENT
(CIVL 4121)**

Time Allotted : 2½ hrs

Full Marks : 60

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
any 4 (four) from Group B to E, taking one from each group.*

Candidates are required to give answer in their own words as far as practicable.

Group – A

1. Answer any twelve:

12 × 1 = 12

Choose the correct alternative for the following

- (i) Minimum width of the staircase in your college should be
(a) 1m (b) 1.2 m
(c) 1.5m (d) 2m
- (ii) Front open space for residential building up to 15.5 m height as per municipal building rule , is
(a) 1.5 m (b) 1.2 m
(c) 2.0 m (d) 1.8 m
- (iii) For any residential building if the FAR is 2, and the plot size is up to 500 sqm maximum permissible ground coverage
(a) 60 % (b) 50 %
(c) 65 % (d) 55 %
- (iv) The basic action involved in sheep foot rolling is
(a) Kneading (b) Pressing
(c) Tamping (d) Vibration
- (v) The hauling of materials in the construction of the multistored building will require for lifting
(a) Hoist (b) Power truck
(c) Spiral conveyor (d) None of these.
- (vi) The occurrence of the starting of an activity, is called its
(a) Head event (b) Tail event
(c) Dual role event (d) Dummy
- (vii) Critical path
(a) Is always longest (b) Is always shortest
(c) May be longest (d) May be shortest

- (viii) PERT network is
 (a) activity oriented (b) event oriented
 (c) both activity and event oriented (d) neither activity nor event oriented
- (ix) While filling the tender for any work, the contractor considers
 (a) Site survey (b) Availability of construction material
 (c) Availability of labour (d) All of the above
- (x) Notice inviting tender published through press publication are called
 (a) Open tender (b) Single tender
 (c) Limited tender (d) Selected tender

Fill in the blanks with the correct word

- (xi) FAR of any building stands for _____.
- (xii) Tractors are either _____ tractor or wheel tractor.
- (xiii) The output of a power shovel is expressed in _____ per hour.
- (xiv) Item rate contract is also termed as _____.
- (xv) CPM stands for _____.

Group - B

2. (a) A building has to be constructed on a plot area of 1200 sq.m. The site about two streets, one of 35 m width and another 10 m FAR is 2.0 . If each storey contains 5 flats, determine the built up area of the building and its height. Ground coverage is maximum 60%. [[CO5)(Analyse/HOCQ]]
- (b) Write short notes on:
 Carpet area and Ground Coverage
 Circulation. [[CO5)(Remember/LOCQ]]
6 + 6 = 12
3. (a) What are the different principles of planning , briefly describe each. [[CO5)(Remember/IOCQ]]
- (b) What are the aspects of these following rooms:
 Kitchen
 Store room. [[CO5)(Remember/LOCQ]]
10 + 2 = 12

Group - C

4. (a) Explain the operation involved in concrete construction. [[CO4)(Understand/IOCQ]]
 (b) Write short note on Sheep foot rollers. [[CO4)(Remember/LOCQ]]
7 + 5 = 12
5. (a) What is Ready mix concrete? Discuss the advantage and disadvantages of RMC. [[CO4)(Understand/IOCQ]]

- (b) Calculate the no. of Transit Mixture (TM) required for transporting concrete from central batching plant to site. The cycle time data of 6m^3 typical transit mixture is given below.

Loading time of TM = 6 minutes

Travel time of loaded TM to site = 30 mins

Average waiting time at site = 5mins

Discharge time of concrete at the site = 15 mins

Travel time for return trip = 24 mins

If the central batching plant is having a average output of $60\text{ m}^3/\text{hr.}$ to run continuously what are the no. of transit Mixers (TM) is required?

[[CO4](Analyse/HOCQ)]

$$8 + 4 = 12$$

Group - D

6. (a) What is the difference between event and activity? [[CO3](Remember/LOCQ)]
 (b) A project consists of 10 activities as detailed below. Draw an arrow diagram representation of the project.

| Job activity | Immediate Predecessors |
|--------------|------------------------|
| M | - |
| N | M |
| O | M |
| P | M |
| Q | N |
| R | O |
| S | P |
| T | P |
| U | Q,R,S |
| V | T,U |

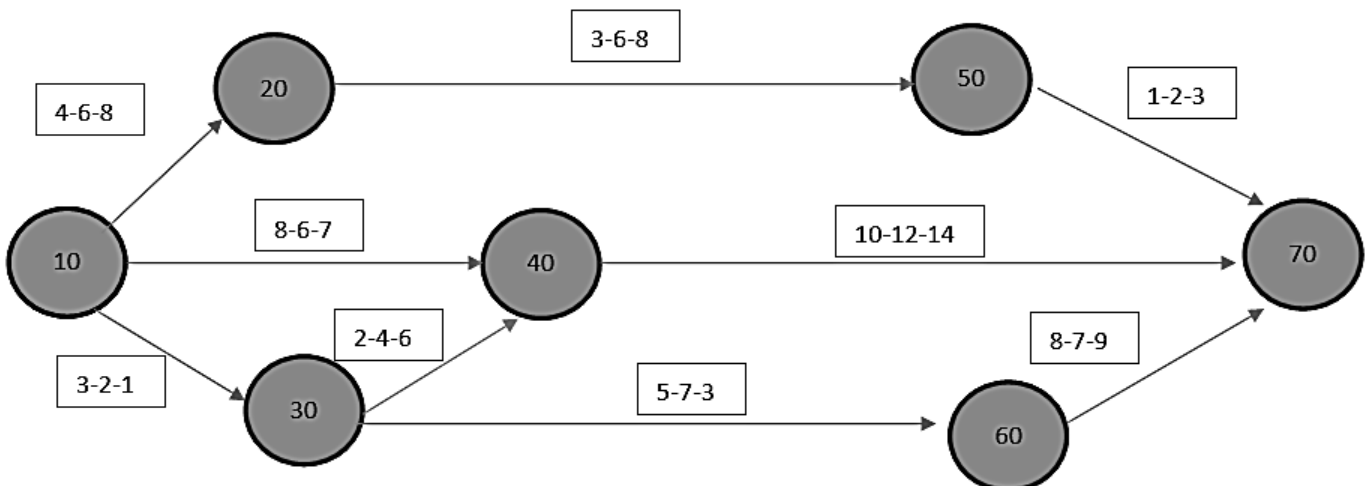
[[CO1](Analyse/HOCQ)]

- (c) Define dummy activity. What are the uses of dummy?

[[CO3](Apply/IOCQ)]

$$3 + 5 + 4 = 12$$

7. (a) Find the network given, find the expected time for each of the project. Also find the critical path as well as the expected time for the project completion.



[[CO3](Analyse/HOCQ)]

(b) Explain the types of construction work based on cost involved.

[[CO1](Remember/LOCQ)]

9 + 3 = 12

Group - E

8. Discuss any three types of tender in details.

[[CO2](Remember/LOCQ)]

(4 × 3) = 12

9. Write short notes on

- i. Earnest Money Deposit (EMD)
- ii. Security Deposit
- iii. Retention Money.

[[CO2](Remember/LOCQ)]

(4 + 4 + 4) = 12

| Cognition Level | LOCQ | IOCQ | HOCQ |
|-------------------------|------|------|------|
| Percentage distribution | 45 | 30 | 25 |