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SEAT No. :

**PF199**

[Total No. of Pages : 3

**APR-26/SE/Insem-245**

**S.E. (Civil Engg.) (Insem)**

**PROJECT MANAGEMENT**

**(2019 Pattern) (Semester - IV) (201012)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Answer Q.1 or Q.2 and Q.3 or Q.4.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable data if required.*

**Q1) a)** What are the scientific methods of project management? Explain with the help of example. **[5]**

b) Write a short note on Categories of project. **[5]**

c) Explain the following principles of management **[5]**

i) Unity of direction

ii) Esprit de Corps

OR

**Q2) a)** Explain with a neat sketch "Matrix Organization Structure" **[5]**

b) What do you mean by project life cycle? What are the different phases considered? **[5]**

c) What is meant by authority? Also state meaning of delegation of authority. **[5]**

*P.T.O.*

Q3) a) Listed below are the activities of a project:

[8]

Activity	Duration (days)
1-2	8
2-3	12
2-4	12
3-5	0
4-5	0
3-6	16
5-7	20
4-8	12
6-9	16
7-9	10
8-9	16

i) Draw a network, calculate total project duration and highlight critical path.

ii) Calculate EST, EFT, LST, LFT and total float for the activities.

b) Define

[4]

i) Optimistic time

ii) Most likely time

iii) Pessimistic time

iv) Expected mean time

c) Compare CPM and PERT

[3]

OR

- Q4) a)** The following table gives the time estimates for various activities of project: **[8]**

Activity	Duration in weeks		
	$t_o$	$t_m$	$t_p$
1-2	1	2	3
2-3	3	6	9
2-4	2	4	6
3-5	4	6	8
4-6	4	6	8
5-6	0	0	0
5-7	3	4	5
6-7	2	5	8

- i) Draw the project network and find total project duration and highlight critical path.
- ii) Calculate variance of all the activities.
- iii) What is the probability that project will be completed in 19 weeks.
- b) What are the rules for drawing network diagram? **[4]**
- c) Define **[3]**
- i) Predecessor activity
- ii) Successor activity
- iii) Concurrent activities.

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