

Total No. of Questions : 12]

SEAT No. :

P2253

[4758]-10

[Total No. of Pages : 4

T.E. (Civil)

PROJECT MANAGEMENT & ENGINEERING ECONOMICS

(2008 Pattern) (Semester-II) (301007)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Figures to the right indicate full marks.*
- 2) *Solve any three questions from section-I and from section-II.*

SECTION-I

- Q1)** a) Write a note on project categories and what are the causes of project failures. **[8]**
- b) Explain matrix type of organisation with the help of example. **[4]**
- c) Differentiate CPM and PERT networking methods. **[4]**

OR

Q2) Listed below are the activities of a small project along their durations.

Activity	1-2	1-3	2-4	3-4	4-5	4-6	5-6	6-7
Duration (Days) →	6	7	5	6	dummy	8	7	2

- i) Draw CPM network and calculate the total project duration. Highlight critical path. **[6]**
- ii) Calculate EST, EFT, LST, LFT, Total Float, Free Float. Write in tabular form with sample calculation. **[10]**
- Q3)** Draw the network diag. find cost slopes and all crash solutions. What would be the decrease in time and increase in cost due to all crash solution? The indirect cost is Rs. 250 per day. **[18]**

P.T.O.

Activity	Time		Cost	
	Normal	Crash	Normal	Crash
1-2	6	4	5000	5500
2-3	8	5	7500	7800
2-4	5	4	8000	8400
2-5	9	6	4000	4450
3-4	0	0	0	0
4-6	7	5	2000	2400
5-6	8	4	3000	4000

OR

- Q4)** a) Draw the network diag. from given data mark critical path and what would be the expected duration of project.
- b) Find out standard deviation and variance of all activities.
- c) What is the probability of completing project in 17-66 days?

Activity	1-2	1-3	2-4	2-5	3-4	4-7	5-6
to	3	3	1	2	5	3	2
tm	4	4	2	3	6	5	4
tp	5	6	3	4	7	7	6

[18]

- Q5)** a) If you are a store keeper how you segregate different items present in your store? [4]
- b) Define EOQ and list out assumptions made in EOQ. [4]
- c) Define safety stock. What is its necessity, list out factors affecting on safety stock. [4]
- d) Yearly requirement of cement for a firm 'Borade Associates' is 20,000 bags. The cost of a bag of cement is Rs. 300/- ordering cost Rs. 150/- per order and annual inventory carrying cost is 30% of average inventory find EOQ. [4]

OR

Q6) a) Define inventory. Explain the costs associated with inventory problems with sketch. [6]

b) Segregate the items as per their annual usage and plot A-B-C curve. [10]

Sr. No.	Items	Annual consumption	Rate per unit
1	A4 paper rim	481 rim	160
2	Registers (100 pages)	105 nos.	53
3	Registers (200 pages)	11 nos.	103
4	Drawing sheets	2200 nos.	10
5	White chalk	70 box	45
6	Colour chalk	20 box	55

SECTION-II

Q7) a) What are the various causes of accidents that may takes places while excavating in sandy soil? Write safety measures to avoid it. [6]

b) Write the important functions of safety manager on a construction site. [4]

c) What are the effects of accident on site? [6]

OR

Q8) a) For the site you have visited, write down points considered to make site layout & draw a typical site layout. [6]

b) What are the various personal protective equipment used on construction sites. [4]

c) “Good site layout increases efficiency of work avoids accidents”, comment. [6]

Q9) a) Write a note on Law of diminishing marginal utility & law of substitution. [8]

- b) 'Nirmiti' associates has following details [10]

fixed cost = Rs. 50 lakh.

Variable cost per unit = Rs. 200

Selling price per unit = Rs. 400

Find:

- i) Break even quantity.
- ii) Break even sales.
- iii) Contribution if actual production quantity is 80,000.
- iv) Represent graphically BEU and sales costs.

OR

- Q10)a)** Explain in brief demand and supply curve. [6]

- b) Define engineering economics. Explain its importance in civil engineering. [6]

- c) Explain with the help of example cost, price and value. [6]

- Q11)a)** Write short note on Any Two: [8]

- i) Annuity and its type.
 - ii) Capital and types.
 - iii) Technical appraisal
- b) What are the different methods of capital budgeting? Explain any one with the help of example. [8]

OR

- Q12)a)** Write a short note on: [8]

- i) Pay back period method.
 - ii) Accounting rate of return method.
- b) What do you understand by NPV method? The cost of project is Rs. 80,000 it has cash in flow of Rs. 30,000 for a period 4 yrs. What is NPV if the firm expects 12% per annum? [8]

