

Total No. of Questions : 10]

SEAT No. :

P2396

[Total No. of Pages : 4

[5253]-107

T.E. (Civil)

**PROJECT MANAGEMENT AND ENGINEERING ECONOMICS**  
**(2012 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instruction to the candidates:*

*1) Answer Q.1or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q. 7or Q.8, Q.9 or Q.10.*

**Q1) a)** Enlist the objectives and importance of Project management. **[6]**

b) Define delegation of Authority and comment on Authority and responsibility should go hand in hand. **[4]**

OR

**Q2) a)** Explain importance of Work break down structures with help of construction related example. **[5]**

b) Construct network diag. find expected project duration and variance of each activity for the data as follows. **[5]**

Activity	Duration (Months) (a, m, b)	Activity	Duration (Months) (a, m, b)
1-2	3,4,5	3-5	3,5,8
2-3	1,2,4	4-5	4,6,9
2-4	5,8,10	5-6	5,9,11

**P.T.O.**

**Q3) a)** A project takes 30 days along the critical path and has standard deviation of six days. What is the probability of completion the project within [6]

- i) 40 days
- ii) 30 days
- iii) 35 days

(Take for  $Z = 1.6$  value of Pr. = 94.5% and for  $Z = 1.7$  value of Pr. = 95.5%)

(Take for  $Z = 0.8$  value of Pr. = 78.8% and for  $Z = 0.9$  value of Pr. = 81.6%)

b) Differentiate between AOA and AON networking methods. [4]

OR

**Q4) a)** What are the methods of manpower planning? Explain in brief. [4]

b) Following data related to small construction work, Draw time grid diagram and manpower requirement per day. [6]

Activity	Duration (Days)	Men
1-2	3	2
1-3	4	5
1-4	7	3
2-3	0	0
3-5	6	4
4-5	4	3

**Q5) a)** Explain the following laws with suitable diagram. [8]

- i) Law of demand and supply
- ii) Law of diminishing marginal utility

b) Discuss importance of economics in construction industry. [4]

c) What do you understand by debt capital and equity capital. [4]

OR

- Q6)** a) Write a short note on : **[8]**  
 i) Time value of money.  
 ii) Types of capital.
- b) What are the factors affecting on price determination? **[4]**
- c) Explain the factors affecting on demand and supply. **[4]**
- Q7)** a) What are the objectives of material management and functions of purchase dept.? **[6]**
- b) Define EOQ and Derive the expression for it. **[6]**
- c) The annual demand for the product is 20,000 units. The unit cost is Rs. 10/-. The annual inventory carrying cost per unit per annum is 20% of avg. inventory cost. If the cost of procurement is Rs. 75/- **[6]**
- Determine
- i) EOQ  
 ii) No. of orders per annum  
 iii) Total cost of purchasing.

OR

- Q8)** a) Write a note on material procurement process in any organization. **[6]**
- b) What points should you consider while making safety programme on site of highway construction? **[4]**
- c) “Surya enterprise” carries the following items. Segregate the items based on their annual usage and plot ABC curve. **[8]**

Sr. No.	Item	Annual Consumption	Cost in Rs. per unit
1	Journal pages	1,000 rim	100/-
2	Note book 100 pgs.	4,000 nos.	30/-
3	Note book 200 pgs.	2,000 nos.	40/-
4	Pens	20,000 nos.	3/-
5	Pencil	30,000 nos.	5/-
6	Chocolates	5,000 pkts.	50/-
7	Soap	4,000 nos.	10/-

- Q9)** a) What are the different types of appraisals required to undertake any Project? Explain any one in detail. [6]
- b) Write a note on break even analysis and find out BEQ and break even sales If fixed cost is 60 lakh. Variable cost per unit is Rs. 70/- and selling price per Unit is 150/- [6]
- c) Write a short note on any one : [4]
- i) Payback period.
  - ii) Annuity.

OR

- Q10)** a) What do you understand by NPV and B/C ratio method? Compare the project by both method and state its feasibility if project cost is Rs.2,50,000 has net cash flow of Rs.25,000 for a period 5 years. Firm expects returns at 10 % per annum. [8]
- b) Write a short note on any two : [8]
- i) IRR method.
  - ii) Break even analysis.
  - iii) Detailed project report (DPR).

