

Total No. of Questions : 10]

SEAT No. :

P1690

[Total No. of Pages : 4

[5460]-507

T.E. Civil

**PROJECT MANAGEMENT AND ENGG. ECONOMICS
(2015 Pattern)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data if necessary.*

Q1) a) Write a short note on : **[2.5 + 2.5]**

- i) Management by objective
- ii) Gantt bar chart and its limitations

b) Draw network diag. for the data as follows **[5]**

- i) Act.A and B are starting activity
- ii) Act.C and D succeeds Act.A
- iii) Act.B and D precedes Act E
- iv) Act F follows Act. C and D
- v) Act. E and F are terminal Activities

OR

Q2) a) Write a short note on : **[2.5 + 2.5]**

- i) Work break down structures
- ii) Precedence network analysis

b) Construct network diag. for the data as follows **[5]**

- i) Event 1 is first and event 5 is last
- ii) Event 2 follows event 1

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- iii) Event 3 and 4 are successor of event 2
- iv) Event 3 restrains occurrence of event 4
- v) Event 5 succeeds event 1 and 4

- Q3)** a) Differentiate between CPM and PERT method with suitable example. [4 + 1]
- b) How do you inspect quality of material like Cement and mud brick on your site? [2.5 + 2.5]

OR

- Q4)** a) Define Inventory and list out step by step process to conduct ABC analysis. [1 + 4]
- b) What safety precautions would you take to avoid accidents on tunneling site? Explain safety programme undertaken. [3 + 2]

- Q5)** a) Explain resource allocation methods and their significance in manpower planning. [2 + 3]
- b) What is updating of network diag.? Explain its necessity. [2 + 3]
- c) The activities and required duration of small work are shown in table underneath. Review of work was taken after 7 days and the following conditions exist. Draw updated network diag. and what will be change in project duration? [8]
- i) Act. 1-2 and 2-3 delayed drastically and requires 7 and 8 more day's resp.
 - ii) Act. 1-3 and Act 1-4 completes as per original plan
 - iii) Due to arrival of new machine Act. 3-5 will take 3 days to complete.
 - iv) Act. 4-5 yet to start and time required for completion is still appears to be accurate.

Activity	1-2	1-3	1-4	2-3	3-5	4-5
Duration, Days	3	4	7	2	6	8

OR

- Q6)** a) Comment on Project Management Software's and their applications in housing projects. [1 + 4]
 b) What do you mean by EVA? Explain any one method in detail. [5]
 c) Following table shows the cost duration data for a small construction project. Carry out step by step crashing and how much you save by crashing the network. Indirect cost is Rs. 300 week. [8]

Activity		1-2	2-3	2-4	3-5	4-5	5-6
Normal	Cost	4000	2000	5500	200	2200	4000
	Duration (Weeks)	3	6	5	7	4	8
Crash	Cost	4200	4800	6400	1200	2600	4200
	Duration (Weeks)	1	2	2	3	2	4

- Q7)** a) "Construction sector is one of the big sector which influences on economic health of country,". Comment. [6]
 b) How to calculate Simple and Compound interest? What is the difference between the Simple interest and Compound interest payable on a principal of Rs. 1,500 in 2 years at the rate of 10% p.a. [2 + 4]
 c) Explain Demand and Supply curve and factors affecting on it. [2 + 2]

OR

- Q8)** a) Define cost, price and value with the help of suitable example. [2 + 2 + 2]
 b) Explain law of diminishing marginal utility and law of substitution with help of suitable example. [3 + 3]
 c) Mrs. Mayuri brought a refrigerator for Rs. 20,000; she paid tax of Rs. 2,000 and Rs. 200 for transport. If she sold it to a customer for Rs. 22,500, what is the percentage profit or loss? [4]
- Q9)** a) What are the different types of appraisals required to undertake any Project? Explain any one in detail. [2 + 4]
 b) Write a short note on : [3 + 3]
 i) ARR method
 ii) IRR method
 c) Explain Payback period method with formula and suitable example. [4]

OR

- Q10)** a) Compare the project by NPV and B/C ratio method and state its feasibility if project cost is Rs. 2,50,000 and it has net cash flow of Rs. 70,000 for a period 5 years. Firm expect returns 11% per annum. [6]
- b) Write a short note on : [3 + 3]
- i) Role PMC.
 - ii) Break even analysis.
- c) Explain Detailed Project Report (DPR). [4]

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