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

P.T.O.

iii) Event 3 and 4 are successor of event 2

iv) Event 3 restrains occurrence of event 4

v) Event 5 succedes 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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