Q. P. Code: 21383

(Time:3 Hours)   **[Total marks : 80]**

NOTE:

- Question No. 1 is compulsory.
- Attempt any THREE out of the remaining five questions.
- Figure to the right indicates full marks
- Assume any suitable data and clearly state the same.

Q.1 A) What do you understand by OSHA?   4

B) Discuss the benefits of quality control program as applied to construction industry?   4

C) Write a note on feasibility studies for a construction project.   4

D) Write a note on minimum wages act.   4

E) Write a short note on occupational health hazards in construction industry.   4

Q.2 The following table shows the details of activities of a small work. Construct the network of   10
the project.Determine optimum project cost & optimum duration.
Indirect cost/day = Rs.700 /-

Activity	Predecessors	Normal		Crash	
		Time (days)	Cost(Rs).	Time (days)	Cost(Rs).
A	---	9	8000	6	9500
B	---	5	5000	3	5500
C	B	5	5000	3	5500
D	A	7	4000	4	7500
E	A	5	5500	3	7000
F	D	6	8000	4	10000

B) Explain in detail the contribution made by Henry Fayol in the evolution of management   10
thought.

Q.3 The table below shows three time estimate of construction project   12

ACTIVITY	t_0	t_m	t_p
A(10-20)	3	4	5
B(10-30)	6	8	10
C(20-40)	2	5	8
D(40-60)	9	10	11
E(40-70)	4	8	12
F(30-70)	7	9	11
G(30-50)	12	14	16
H(60-80)	3	6	9
K(70-80)	6	7	8
L(50-80)	3	6	9

Z value	-3	-2	-1	0	1	2	3
Probability	0.001	0.023	0.159	0.5	0.841	0.977	0.999

a) Draw PERT network.

b) Determine the expected project completion time.

c) What is the probability that work can be completed in 25 days?

d) If probability is 90%, what will be the project duration?

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B) What do you understand by updating? What are the stages of updating? How will you determine the frequency of updating?.   08

Q.4 A) Activity data for a small project is given in the following table: 12

Activity	A	B	C	D	E	F	G	H	I
Preceding activity	-	-	-	A	B	C	D,E	B	H,F
Duration (days)	3	5	4	2	3	9	8	7	9

i- Draw AOA Network
ii- Work out activity times and floats
iii- Determine project duration and critical path

B) Explain the stages of planning of a construction project by contractor and owner.   08

Q.5 Table below shows activities, their durations and labour requirements: 12

Activity	Duration	Carpenters
A(10-20)	8	3
B(10-30)	11	4
C(20-50)	6	2
D(30-40)	5	5
E(30-50)	8	3
F(40-50)	5	3

a) Workout daily requirement of carpenters with all activity schedule to start at their EST, LST also prepare histogram
b) Which schedule you will prefer & why?

B) Explain the roles of various agencies involved in any construction project.   08

Q.6 A) What do you understand by a bar chart? Prepare a bar chart for sub structure of RCC bungalow. Identify the various activities involved, give the relationship among the activities. Assume all the necessary data required.   08
B) Explain the need and purpose of human resource management in construction sector.   06
C) What do you know about M S Project and Primavera?   06