(3 Hours)   [Total Marks : 80]

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

Q.1 A) What do you understand by ABC analysis? Explain with an example.   4

   B) Write difference between quality control and quality assurance.   4

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

   D) Write a note on workman compensation act specifying the compensation for various types of injuries.   4

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

Q.2 The following table shows the detail of activity of a small work. Construct the network of the work.   12
Contract the network crashing it to optimum value and calculate the optimum project cost. Indirect cost = Rs.300 / per day.

Activity	Normal		Crash	
	Times in days	Cost in Rs.	Times in days	Cost in Rs.
1-2	9	8000	6	9500
2-3	5	5000	3	5500

   B) Explain in detail the contribution made by Henry Fayol in the evolution of management thought.   08

Q.3 A small project is composed of seven activities as given below :   12
   a) Draw project network
   b) Find expected duration, standard deviation and variance of all activities.
   c) Find the expected time for completion of project with 84.13% probability.

Activity		Estimated Duration (week)		
i	j	Optimistic	Most Likely	Pessimistic
1	2	3	6	15
1	6	2	5	14
2	3	6	12	30
2	4	2	5	8
3	5	5	11	17
4	5	3	6	15
6	7	3	9	27
5	8	1	4	7
7	8	4	19	28

Z	0.1	0.5	1	1.5	2	2.5	3	-0.1	-0.5	-1	-1.5	-2	-2.5	-3
P (%)	53.98	69.15	84.13	93.32	97.72	99.38	99.87	46.02	30.85	15.87	6.68	2.28	0.62	0.13

   B) What is time overrun and cost overrun? What are the common causes and suggest the corrective measure to avoid time and cost overrun.   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 A) A project consists of activities given in the table below. Draw the network. Analyze the project 12 from point of view of resources to bring out the necessary steps involved in the analysis and smoothing of resources.

Activity	1-2	2-3	2-4	3-5	4-6	4-7	5-8	6-8	7-9	8-10	9-10
Week	2	3	4	2	4	3	6	6	5	4	4
Men	4	3	3	5	3	4	3	6	2	2	9

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 construction of RCC retaining 08 wall, 30 m long, 2.0 m above G.L. Identify the various activities involved, give the relationship among the activities. Assume all the necessary data required.

B) Explain the need and purpose of human resource management in construction sector. 06

C) What is WBS and its importance in planning & controlling of construction project? 06

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