

40+40+40+17

B.E. Civil - VIII c-scheme

9.5.23

147

(80 Marks)

Time: 3 hours

Note:

- i) Q. 1 is compulsory.
- ii) Attempt any three out of remaining questions.
- iii) Figures to right indicates full marks.
- iv) Assume Suitable data if required.

Q.1 a) Following table shows the activities, their interdependence and the durations.

Activity	A	B	C	D	E	F	G	H
Preceding activity	-	A	A	A	B	B	C	F, G
Duration (days)	4	3	5	7	5	10	5	7

Draw A-O-A network. Identify critical path. Determine Project duration. Work out all activity times and floats -10M

b) Explain the contribution of Mr. Henry Fayol toward the development of management thoughts. - 10M

Q.2 a) A small project is composed of seven activities as given below:

- i) Draw project network
- ii) Find expected duration, standard deviation and variance of all activities.
- iii) What is the probability that the project will be completed 3 weeks earlier than the expected date?
- iv) What is the probability of completing the project 1 week later than scheduled duration? -- 10 M

Activity		Estimated duration (weeks)		
i	j	t <sub>0</sub>	t <sub>m</sub>	t <sub>p</sub>
1	2	2	3	5
1	3	4	9	14
1	4	2	8	12
2	5	1	1	1
3	5	2	5	14
4	6	2	8	10
5	6	3	9	15

Z	-3.0	-2.0	-1.0	0	+1.0	+2.0	+3.0
P (%)	0.13	2.28	15.87	50	84.13	97.72	99.87

b) What do you understand by "Inventory Control"? Also explain A-B-C Analysis in detail.

--10 M

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Q.3a) For a small project, prepare a resource histogram based on EST and LST schedule.

Comment which schedule will you prefer? Why?

--10 M

Activity	A	B	C	D	E	F	G
Preceding activity	-	A	A	A	D	B	C, E, F
Duration (days)	4	5	10	3	5	4	4
Labours required	3	4	4	3	2	4	5

b) What is Resource Allocation? Also explain methods of Resource Allocation.

--10 M

Q.4) Find out optimum cost & optimum duration for the project whose details are given below. Indirect Cost of Project = Rs.2000/day

--10 M

Activity	Duration (days)		Cost (Rupees)	
	Normal	Crash	Normal	Crash
A (1-2)	7	4	10000	14000
B (1-4)	9	6	12000	17000
C (1-3)	4	3	7000	9000
D (2-4)	6	3	11000	15000
E (3-4)	5	3	9000	13000
F (4-5)	7	5	12000	15000

b) What is the role of training and development in HRM

---5M

c) What are the unique features of construction in India? Explain.

---5M

Q.5 a) What do you understand by "Updating of Network"? Also explain stepwise procedure of Updating.

--10 M

b) Explain: - 1) Payment of Wages Act 2) Workmen's Compensation Act

--10 M

Q.6) Write notes on followings (Any five)

--- 20 M

1) Injury Frequency Rate & Injury Severity Rate

2) Time Overrun & Cost Overrun

3) O S H A

4) Quality Manual & Quality Assurance

5) A - B - C analysis

6) Network Rules