BE | CIVIL | SEM-VIII | CBSGS 20 MAY 2019 Q.P. Code :16394

(3 Hours) [Total marks: 80]

N.B:
i) Question No. 1 is compulsory.
ii) Attempt any Three out of the remaining Five questions.
iii) Figure to the right indicate full marks
iv) Assume any suitable data and clearly state the same.

Q.1 Answer any four of the following: 20
(a) What is work breakdown structure & what is its importance in planning & controlling?
(b) Write a note on OSHA
(c) What is Bar chart? Write the steps to prepare the bar chart.
(d) Explain in brief the functions of material management?
(e) Explain, Statistical quality control.

Q.2 A small project is composed of following activities as given below : 20
(a) Draw the project network.
(b) What is expected project duration?
(c) Calculate the probability that the event 60 will occur by day 55
(d) Calculate the probability that the work will get over by day 100.
(e) Calculate the time duration for reaching event 60 corresponding to 80% probability.
Cumulative probabilities for standard normal distribution.
[z, p]: [0.0, 50.0],[0.5, 69.1],[1.0, 84.4],[1.5, 93.3],[2.0, 97.7],[2.5, 99.3]

Activity		Estimated Duration (week)		
i	J	Optimistic	Most Likely	Pessimistic
1	2	10	16	20
2	3	7	10	20
2	4	5	7	8
3	5	15	18	21
4	6	25	30	32
5	7	6	9	12
6	7	21	25	28
7	8	6	8	9

Q.3 A) A network consists of the following activities with indicated duration in weeks. 12
(a) Draw the networks.
(b) work out all types of floats
(c) Identify the project duration and critical path

Activity	Preceded by	Duration	Activity	Preceded by	Duration
A	INITIAL	3	E	A	5
B	A	2	F(Terminal)	B	1
C(Terminal)	D	4	G	B	2
D	E	2	H(Terminal)	E,G	3

B) Explain in detail the contribution made by F.W. Taylor in the evolution of management thought. 8

(Turn Over)

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Q.4 A). Determine the minimum cost and optimum duration for the project. The data for each activity of the network is given in the following table. 12
Indirect cost = Rs.300 / per day

Activity	t_n (day)	t_c (day)	C_n (Rs.)	C_c (Rs.)
1-2	2	2	1000	1000
1-3	7	3	500	900
2-3	6	3	300	420
2-4	5	4	200	250
3-4	0	0	0	0
3-5	9	4	600	900
4-6	11	6	600	1000
5-6	6	3	700	910

B) Define planning in construction project. What are the advantages of planning? 8

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

Activity	Duration	Carpenters
A(1-2)	8	3
B(1-3)	11	4
C(2-5)	6	2
D(3-4)	5	5
E(3-5)	8	3
F(4-5)	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) What are the sanctions and approvals that are necessary to obtain before the commencement of the construction work in any government department? Describe in brief. 8

Q.6 Write short notes on any four 20
i) Job layout
ii) Safety campaign
iii) Occupational health hazards
iv) Fulkerson's rule for numbering of network
v) Minimum wages act
vi) Network rules
