Hall Ticket Number :										

R-15

Code: 5G681

IV B.Tech. II Semester Regular & Supplementary Examinations September 2020

Design and Drawing of Irrigation Structures

(Civil Engineering)

Max. Marks: 70 Time: 3 Hours

Answer any one question from the following (1 x 70 = 70Marks)

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		Marks	CO	Blooms Level
1.	Design the surplus weir of a tank forming part of a chain of tanks. The combined catchment area of the group of tanks is 25.89 sq.km and the area of the catchment intercepted by the upper tanks is 20.71 sq.km. It is decided to store water in the tank to a level of +12.00 on above M.S.L(Mean Sea Level) limiting the submersion of fore shore lands up to a level of +12.75 above M.S.L. The general ground level at the proposed site of work is +11.00 meters and the ground level below the proposed surplus slopes off till it reaches +10.00 meters is about 6 m distance. The tank bund has a top width of 2 m at level +14.50 with 2:1 side slopes on either side. The tank bunds are designed for a saturated gradient of 4:1 with 1 m clear cover. Provision may be made to make kutcha regulating arrangements to store water up to M.W.L at times of necessity. The foundations are of hard gravel at a level of 9.5m near the site work.	70M	1	3

OR

2. Design a syphon aqueduct if the following data at the crossing of canal and drainage are given:

Discharge of canal	= 35 cumecs	70M	1	3
Bed width of canal	= 25 m			
Full supply depth of canal	= 1.4 m			
Bed level of canal	= 200 m			
Side slopes of canal	= 1.5H:1V			
High flood discharge of drainage	= 400 cumecs			
High flood level of drainage	= 201 m			
Bed level of drainage	= 199 m			
General ground level	= 200.5 m			

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Hall Ticket Number :										

R-15

Code: 5G682

IV B.Tech. II Semester Regular & Supplementary Examinations September 2020

Estimation, Costing and Valuation

(Civil Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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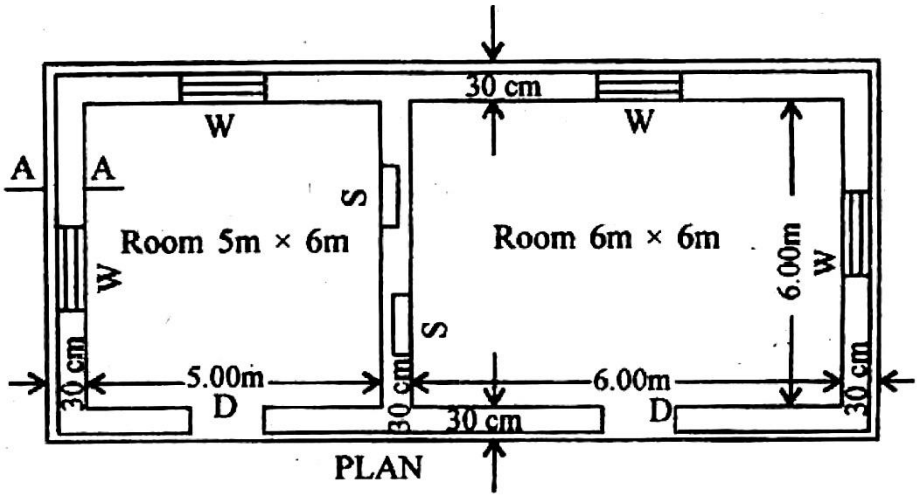
		Marks	CO	Blooms Level

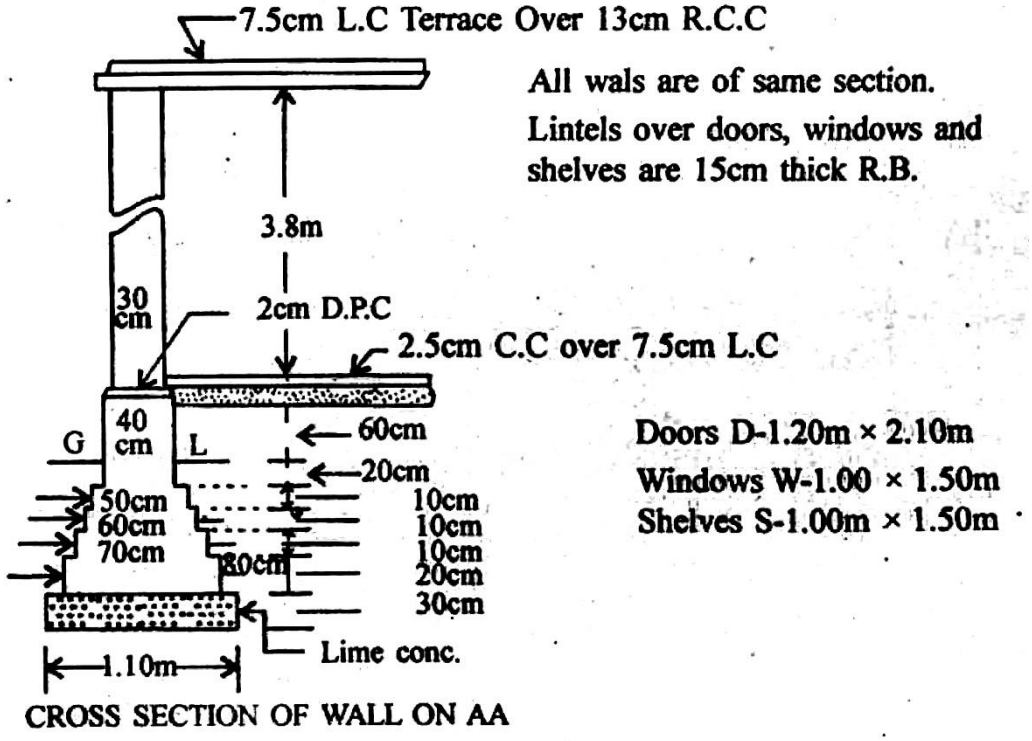
UNIT–I

1. Explain the different methods for estimating building works with suitable examples. 14M 1

OR

2.





Estimate the quantities of the following items of a two roomed building from the given plan and section?

a) Earth work in excavation in foundation

b) Lime concrete in foundation 14M 1

UNIT–II

3. Prepare an estimate for the portion of a road from chainage 14 to 22 from the data given below. The formation width of the proposed road is 12 m, side slopes 1½:1 in cutting and 2:1 in banking.

Chainage (30m)	14	15	16	17	18	19	20	21	22
RL of ground	108.60	109.25	109.45	108.85	108.50	107.25	106.80	107.50	107.20

The road formation is proposed at uniform falling gradient 1 in 200 passing through GL at 14 m chainage. R.L of formation being 108.00 m. 14M 2

OR

4. A canal with side slopes 1.5:1 and bed width 3.5 m with water depth of 0.6 m is carried in full embankment. The side slopes of the embankment are 1.5:1 on both sides and the bank widths are 3.3 m and 1.8 m on the left and right sides respectively. The G.L. for a length of 600 m are tabulated below. The canal bed level at chainage of 1000 m is 208.900 m and bed slope of canal is 1 in 5000. Estimate the quantity of earth work in embankment, Take free board of canal as 0.45 m.

Chainage (30m)	1000	1100	1200	1300	1400	1500	1600
RL of ground	208.9	208.75	208.6	208.5	208.5	208.4	208.35

14M 2

UNIT–III

5. Calculate the rate analysis for 20 cum brick work. 14M 3

OR

6. a) What are the factors affecting the rate analysis 10M 3

   b) Explain about schedule of rates. 4M 3

UNIT–IV

7. Write detail notes on contracts and types of contracts. 14M 4

OR

8. Discuss in detail about requirements of tendering. 14M 4

UNIT–V

9. a) What do you mean by valuation and explain various purposes of valuation. 10M 5

   b) Explain the capitalized value with simple example. 4M 5

OR

10. Write the detailed specification for the following items:
    a) R.C.C. work in roof slab in CC 1:2:4
    b) Damp proof course 25 mm thick in Cement Mortar 1:3
    c) Plastering in Cement Mortar 1:3 for inside walls

    14M 5

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Hall Ticket Number :										

R-15

Code: 5GA82

IV B.Tech. II Semester Regular & Supplementary Examinations September 2020

Human Resource Management

(Common to CE, CSE & IT)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Define Human Resource Management and explain its scope 4M
   b) Narrate major differences between Personnel Management and HRM 10M

OR

2. What are the competitive challenges of HRM 14M

UNIT–II

3. a) Discuss the steps in Human Resource Planning Process 7M
   b) Write a short notes on Job description. 7M

OR

4. a) Explain in detail the methods of Job Design 6M
   b) What are the methods of collecting Job Analysis Data 8M

UNIT–III

5. Define selection. Narrate the sequential steps involved in selection process. 14M

OR

6. a) What are the sources of Recruitment? Explain the advantages of them. 8M
   b) Distinguish between Placement and Induction? Explain their significance 6M

UNIT–IV

7. a) What is Career Planning? Explain its advantages 5M
   b) Discuss the steps in Employee Career Planning 9M

OR

8. a) What are the different training methods used in a company to train an employee? 7M
   b) Explain any two training methods in detail. 7M

UNIT–V

9. a) Explain the components of Compensation Structure 5M
   b) Discuss important features of wage policy in India 9M

OR

10. a) What is 360 degree performance appraisal? 4M
    b) Explain different approaches to Industrial Relations in India 10M

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Hall Ticket Number :										

R-15

Code: 5G58D

IV B.Tech. II Semester Regular & Supplementary Examinations September 2020

Total Quality Management

(Civil Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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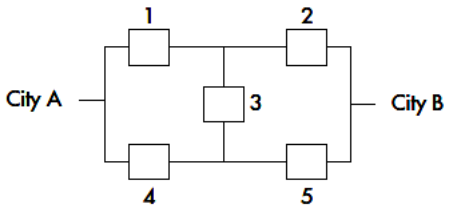
			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Explain 'Total Quality Management'. What are the benefits of TQM?	7M	1	2
	b)	Explain PDSA cycle and Kaizen for continuous process improvement.	7M	1	2
		OR			
2.	a)	Explain the roll of TQM leaders.	7M	1	2
	b)	Explain seven steps to strategic planning.	7M	1	2
		UNIT–II			
3.		Explain (i) Pareto chart (ii) Cause and effects diagram clearly.	14M	2	2
		OR			
4.		Explain control charts for variables in detail.	14M	2	2
		UNIT–III			
5.	a)	What are the advantages of ISO 9000 standards to buyer and seller?	7M	3	1
	b)	Which are the four tiers of documentation in ISO 9000?	7M	3	1
		OR			
6.		Explain the steps in building a house of quality.	14M	3	2
		UNIT–IV			
7.	a)	Define and explain the terms MTBF, MTBM, MTTF and MTTR.	8M	4	1
	b)	A total of 50 components whose mean time to failure is known to be 200 hours are placed on test continuously. Estimate the number of components which would fail in the time intervals 0 to 50, 50 to 100, 100 to 150 and 150 to 200.	6M	4	3
		OR			
8.	a)	Interpret the importance of system reliability by considering the series and parallel reliability.	5M	4	5
	b)	A communication network between two cities, A and B, consists of five independent and identical relay units forming a bridge network as shown below. For the network to work, a least one path between the two cities should work. If the reliability of each relay is 0.99, what is the reliability of the network? 	9M	4	3
		UNIT–V			
9.		Explain survival rate, design synthesis, reliability effort function and safety margin.	14M	5	2
		OR			
10.	a)	Describe the allocation of reliabilities by AGREE and ARINC.	7M	5	1
	b)	Discuss bath tub curve in conjunction with reliability.	7M	5	2

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