Code No.: **30130/40129**

MR13/ MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **WATER RESOURCES ENGINEERING-II**

Branch: **CE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What is the relation between reservoir capacity and reservoir yield?
2. List out the modes of failure of a gravity dam.
3. Explain briefly role of Energy dissipaters.
4. What are canal falls and why are they constructed?
5. Describe "Cross-Drainage works" and name the different types of cross drainage works.

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. What is mass inflow curve?
2. What are the various methods of reservoir sediment control?
3. Distinguish clearly between rigid and non-rigid dams.
4. List the various forces acting on a gravity dam.
5. Discuss in brief the causes of failure of earth dams.
6. Mention different types of gates used on spillways.
7. Difference between silt ejectors and silt excluder?
8. Difference between Head regulators and distributory regulator
9. Explain briefly about launching apron.
10. Write short note Exit gradient and its importance.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. (a)Explain the importance of dead storage in a reservoir with a neat sketch. (4)

   (b)What are the factors on which the selection of the site of a reservoir depend (6)

(Or)

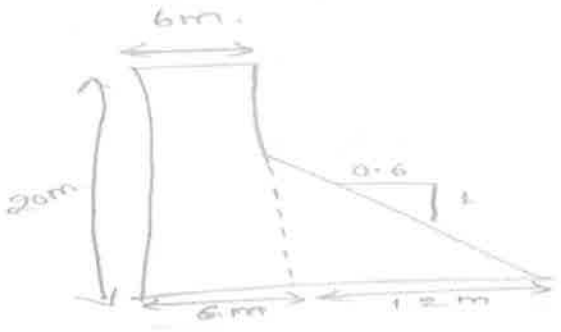
2. (a) Explain the advantages and disadvantages of Detention and Retarding reservoir. (4)

   (b) The monthly yield of water from a catchment is given below. Determine the Minimum capacity of the reservoir by mass curve method if the flow is drawn at a uniform rate.

   Values are given in million cubic meters: (6)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Inflow Volume	1.4	2.1	2.8	8.4	11.9	11.9	7.7	2.8	2.52	2.24	1.96	1.68

3. A concrete gravity dam 20m in height has top width 6m and free board 2.5m, upstream face is vertical, while downstream face has a slope of 0.6H:1V right from top to bottom. Check the stability of the dam. Take specific weight of concrete as 2:4tm^3 consider pull up lift. No tail water, assume any other data not given.



(Or)

4. (a) What is meant by gravity dam? What are the main points to be considered while selecting a site for a gravity dam construction (6)

(b) Write the importance of Inspection and drainage galleries (4)

5. (a) Explain the method of plotting phreatic line for an earth dam with horizontal filter at d/s (5)

(b)Explain the design criteria for earth dams (5)

(Or)

6. (a) Design a section for the overflow portion (spillway) of concrete dam having the downstream face sloping at a slope of 0.5H:1V the other following data: (6)

Design discharge for the spillway = 10,000cumecs

Height of spillway crest = R.L 210m

Average riverbed level= 110m

Spillway length = 8 spans of clear width of 12cm each

Thickness of pier = 3.0m

(b) Explain briefly about Ogee shaped spillway (4)

7. (a) With a neat sketch mention the components of a diversion head work.
(b) Discuss in brief about various failures of Impervious foundations

(Or)

8. a). Write any three canal drops/falls in detail with neat sketch (6)

b) Explain the importance of canal outlets. (4)

9. An impervious floor of a weir on permeable soil is 16 m long and has sheet piles at both ends. The upstream pile is 4m deep and the downstream pile is 5m deep. The weir creates a net head of 2.5m. Neglecting the thickness of the weir floor, calculate the uplift pressure at the junction of the inner faces of the pile with the weir floor, by using Khosla's theory.

(Or)

10. (a) What are the various factors which affect the selection of the suitable type of cross-drainage works.

(b) Explain in detail about super passage with a neat sketch show the components

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IV B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2018

Subject: **Estimating and Costing**

Branch: **CE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What is an Estimate?
2. List out the methods of building estimate.
3. What is meant by cutting?
4. Define overhead charges.
5. What is meant by valuation?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Give the units of measurement for the following items.
   a. Filling the basement with sand.
   b. D.P.C. specified width and thickness.
   c. Rough stone pitching.
   d .Shuttering.
2. Mention the types of estimate.
3. What are the steps involved in taking measurements in a detailed estimate?
4. Write a short note on long wall short wall method.
5. Draw typical cross section of the road in cutting and derive expression for Volume for 1m length.
6. Write different methods for finding earthwork and write tabular column for any one of the methods.
7. Dcfinc ratc analysis and S.S.R.
8. What is lead statement?
9. What is meant by sinking fund and scrap value?
10. What are the conditions of a contract?

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

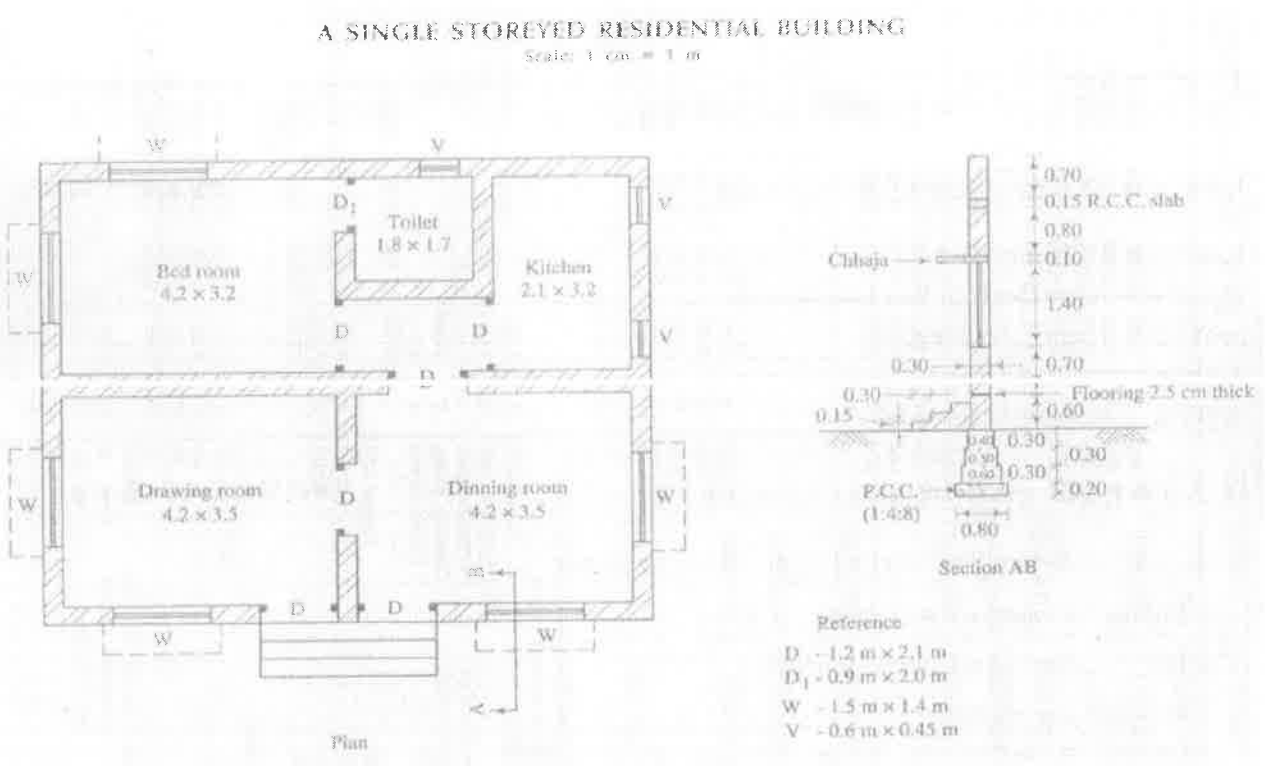
1. .Describe the methods of preparation of approximate estimate.

(OR)

2.What is an Estimate and what is its purpose?

3. Prepare an estimate of the following items of residential building shown if Fig.1 below
Excavation for foundation
Sand filling in plinth
PCC (1:4:8) for foundation
First class brick masonry in c.m (1:6) up to plinth
First class brick masonry in c.m (1:6) in super structure.

Fig.1



(OR)

4. Explain different methods of building estimate with a illustrative example for each method.
5. Explain in detail the following with examples:
   i. Mid sectional Area ii. Mean sectional Area iii. Prismoidal formula metho

(OR)

6. Calculate the quantity of Earthwork for the given canal. The width of the canal is 12m.

Distance(m)	0	20	40	60	80	100	120	140
Ground level	113.0	113.8	114.2	115.6	114.6	115.2	114.00	113.41
Formation level	112 |<----------Upward gradient 1 in 50---------->							

For the given canal side slopes are (1:1½) for banking and for cutting (1:1).

7. Prepare analysis of rates for plastering (1:3) and becomes 1.5 cubic meters
   The following rates may be adopted
   a) Cement Rs 175/- per 50kg b) sand Rs40/- per cum
   c) Mason Rs 50 /- per day d) male mazdoor Rs 80/- per day
   e) Female mazdoor Rs 35/- per day f) L.S sundries

(OR)

8. a. Analyse the rate for 12mm plastering 1:3 cement mortar for a wall building.
   b. Explain briefly the various factors affecting the rate analysis.

9. Define Contract Document. Differentiate between Lumpsum contract and Schedule Contract with an example.

(OR)

10. a) What is the purpose of valuation? List different methods.
    b) Differentiate between: i. Mortgage value and Scrap value ii. Book value and Liquidated value

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IV B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2018

Subject: **Transportation Engineering-II**

Branch: **CE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. List the components of a permanent way.
2. Define cant deficiency.
3. What is meant by Airport Reference Temperature?
4. Define harbour.
5. Define ITS.

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. What is meant by creep of rails?
2. What are the advantages of concrete sleepers?
3. What is cant deficiency and cant?
4. What are the two types of turnouts?
5. Define wind coverage.
6. Give the elements of airport lighting.
7. What are the important requirements of harbour?
8. Write about the classification of ports.
9. Give the various applications of ITS.
10. Define Automatic Vehicle Location.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. a) What are the requirements of an ideal permanent way? Explain. (6)
   b) What are the functions of sleepers? (4)

(Or)

2. What is meant by creep? Briefly discuss the theories related to creep of rails. (10)

3. a) Explain about negative super elevation and the situation where it is required in a railway track. (5)
   b) Write in detail about types of gradients. (5)

(Or)

4. a) Describe in detail about the various types of rail joints used in railway track. (5)
   b) What is a semaphore signal? Explain the working principle of a semaphore signal. (5)

5. a) Explain the factors to be considered for the selection of site for a commercial airport. (5)

   b) Explain the salient features and functions of aprons in an airport. (5)

(Or)

6. a) Draw a typical layout of an international airport and explain its components. (5)

   b) Explain how runway orientation is determined. (5)

7. a) Write in detail about classification of harbor and ports. (5)

   b) Classify different types of Breakwaters. Explain any one in detail. (5)

(Or)

8. a)Write in detail about aprons, transit sheds and ware houses. (5)

   b) Describe the various navigational aids used in guiding ships in harbours and ports. (5)

9. a) Briefly explain the benefits of ITS. (5)

   b) Write short notes on Advanced Traffic Management System. (5)

(Or)

10. Discuss briefly implementation of ITS in developed countries.

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IV B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2018

Subject: **INDUSTRIAL WASTE WATER TREATMENT**

Branch: **CE**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What is industrial waste?
2. What is proportioning of wastewater?
3. What is Blue baby syndrome?
4. What is the meaning of Tanneries?
5. What are the advantages of steel plants in our life?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Write the significance of quality water in food processing industry.
2. How to treat the waste water for useful in our life?
3. What is strength reduction?
4. Define domestic sewage?
5. How to discharge industrial waste water to streams?
6. Mention the uses of municipal waste water?
7. What are special characteristics of treatment methods?
8. What is meant by fertilizers?
9. Define pharmaceutical plants?
10. What do you mean common effluent treatment plants?

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. What is boiler?What are the quality requirements of boiler and cooling water?

(OR)

2. Describe the quality requirements of process of water for textiles?
3. What is the difference between volume reduction and strength reduction?

(OR)

4. Explain briefly about basic theories of industrial waste water management?
5. Discuss the recirculation of industrial wastages?

(OR)

6. Describe the lakes and oceans problems?
7. What is manufacturing process? How to design origin of liquid waste from pulp industries?

(OR)

8. What are the advantages and disadvantages of liquid waste water?
9. Describe the effluent disposal methods of waste water?

(OR)

10. What is the manufacturing process and design of liquid waste from pharmaceuticals plants?