Code No.: **40126/30127**

MR14 –Regular & MR13- Supplementary

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

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

IVB.TECH I SEMESTER REGULAR & SUPPLEMENTARY EXAMINATIONS, OCTOBER - 2017

SUBJECT: **REMOTE SENSING AND GIS**

(BRANCH: **CE**)

Time: **3 Hours** Max Marks: **75 Marks**

PART-A

I. Answer all the questions **5 x1M=5M**

1. What are fiducial marks?
2. Briefly explain thermal remote sensing.
3. Define GIS
4. What is Map overlay in GIS?
5. Define Drainage Morphometric.

II Answer all the questions **10 x 2M=20M**

1. What is overlapping?
2. Write a brief note on Spectroscopy.
3. Write four advantages of GIS.
4. Differentiate Selective and non-selective scattering.
5. What are four essential features of map?
6. Write a brief note on Raster GIS.
7. Explain buffering function in GIS.
8. What type of spatial data raster model is suited?
9. Write about fluvial geomorphology.
10. Write a brief note on Water depth estimation through GIS.

PART-B

Answer all the questions **5 x 10M=50M**

1. Write about Parallax measurement for height using figures wherever required.

(OR)

2. Explain the elements involved in Remote Sensing with neat sketches

3. Explain in detail about
   (i) Spectral properties of different water bodies
   (ii) Any three techniques used in digital image interpretation

(OR)

4. Describe in detail about Visual Interpretation Techniques used in remote sensing.

5. Explain data compression techniques used in raster data model.

(OR)

6. What is network analysis in GIS? Explain its applications with examples.

7. Write briefly on the integrated analysis of the spatial and attribute data.

(OR)

8. a) Explain in detail overlay and buffering analysis and site examples where they are useful in civil engineering.

   b) What Visual Analysis Methods are used in real time problems?

9. Explain the principles of Land Use and Land Cover analysis.

(OR)

10. Explain the role of GIS in flood and drought management.

Code No: 40128/30129

MR14 – Regular & MR13-Supply

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IV B.TECH I SEMESTER REGULAR & SUPPLEMENTARY EXAMINATIONS, OCTOBER- 2017

SUBJECT: **ESTIMATING & COSTING**

(BRANCH: CE)

Time: **3 Hours** Max Marks: **75 Marks**

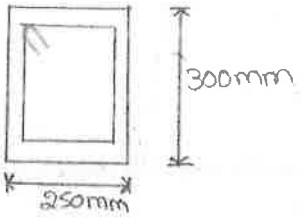
PART-A

I. Answer all the questions **5 x 1 = 5 M**

1. Write the units of measurement for (a) Earth work in surface excavation not exceeding 30cm depth and (b) Rolling shutter.
2. List the different methods of building estimates.
3. List the different methods available for calculation of volumes.
4. Define overhead charges.
5. What is a contract?

II. Answer all the questions **10 x 2 = 20 M**

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. Write four general items of work in buildings.
3. Calculate the length of stirrup having 6mm dia with 2-legged. Side and bottom covers are 20mm.



4. If the number of risers = 10, find the number of threads.
5. What is banking and what is cutting? Give one example for each.
6. Draw typical cross section of the road in cutting and derive expression for Volume for 1m length.
7. Define cost at site and cost at source.
8. Find the quantities of different materials required to make 2 m^2 of cement mortar of proportion 1:3.
9. What is meant by Lumpsum contract and Schedule prices contract?
10. What are the objectives of valuation?

PART-B

Answer all the questions **5 x 10 = 50 M**

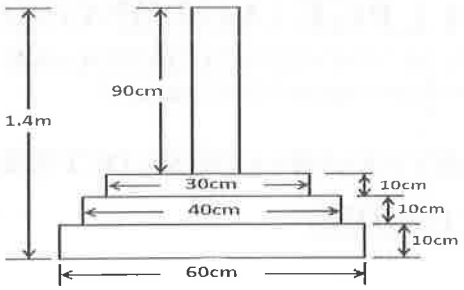
1. Prepare an approximate estimate for the proposed construction of a government building with the following data. (10M)

   Plinth area-100 m^2, cost of construction-Rs 900/-per m^2
   Formation of roads & lawns-1%
   Fluctuation of rates- 4%
   Unforeseen items – 2%
   Contingencies-3%

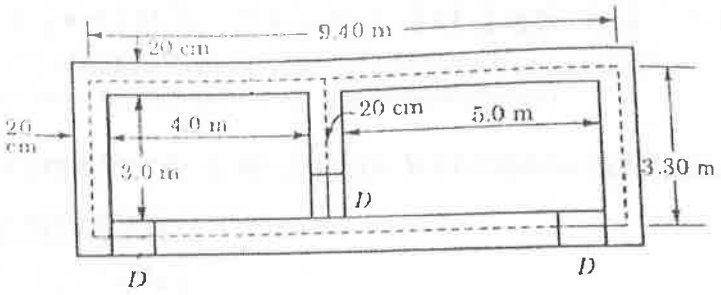
(OR)

2. Explain the methods of approximate estimate in detail. (10M)
3. Calculate the quantities of the following items:
   i. Earthwork (3M)
   ii. Concrete work in foundation (3M)
   iii. Brick work (4M)

From the given plan and section of 20cm thick wall by using long wall short wall method and centerline method. Comment on the quantities.



Elevation



Plan of super structure.

(OR)

4. Explain different methods of building estimate with a illustrative example for each method. (10M)

5. The ground levels at various chainages along the center line of a proposed road are as under: Determine the quantity of earthwork. (10M)

Chainage	11	12	13	14	15
R.L. of ground (m)	280.50	283.36	285.52	287.10	286.50

The ground has uniform cross slope of 1 in 8. The chain length is 30 m long. The road formation is proposed at uniform gradient passing through the ground level at the end chainage with formation width 8 m and side slope of cutting as 1:1.

(OR)

6. Reduced level (R.L) of ground along the centre line of a proposed road from chainage 10 to chainage 20 are given below .The formation level at the 10th chainage is 107 and the road is in downward gradient of 1 in 150 up to the chainage 14 and then the gradient changes to 1 in 100 downward, formation width of road is 10 meter and side slopes for banking are 2:1 (horizontal : vertical) and for cutting 1:2 (H:V) .Length of the chain is 30 meter. (10M)

Chainage	10	11	12	13	14	15	16	17	18	19	20
R.L. of ground	105.00	105.60	105.44	105.90	105.42	104.30	105.00	104.10	104.62	104.00	103.3

7. Prepare rates analysis for the given works. (4+4+3=10M)
   a. R.C.C work in slabs
   b. First class brickwork in super structure with 1:6 cement mortar.
   c. 2.5 cm thick concrete floor(1:2:4)
   Assume any necessary data.

(OR)

8. Prepare analysis of rates for plastering (1:3) and becomes 1.5 cubic meters. (10M)
   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

9. A building is constructed at a cost of Rs 5 lacs on a land purchased at Rs 1.5 lacs. The owner of the property expects a return of 9% on the cost of construction and 8% on the cost of land. The building is estimated to have future life of 50 years at the end of which it returns Rs10.25 lacs. Determine the standard rent of the property for the given data. (10M)
   a. Rate of interest for sinking fund at 6%
   b. Annual repairs at 1.5% of the cost of construction.
   c. All the other out goings is at 28% of the net income of the property.
   d. Scrap value at the end of useful life of building at 10% of its present value
   Note: Assume any necessary data.

(OR)

10. a) What is the purpose of valuation? List different methods. (5M)
    b) Differentiate between: (5M)
    i. Mortgage value and Scrap value
    ii. Book value and Liquidated value

Code No.: **401D4/301D4**

MR 14 – Regular & MR 13 - Supply

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IV B.Tech I Sem Regular & Supplementary Examinations, NOVEMBER-2017

SUBJECT: **INDUSTRIAL WASTE WATER TREATMENT**

(Branch: **CIVIL**)

Time: **3 Hours** Max Marks: **75 Marks**

PART-A

I. Answer all the questions **5 x1=5M**

1. Define Ramkine Cycle.
2. What is volume reduction?
3. Define eutrophication.
4. What is black liquor?
5. What are the advantages of steel plants in our life?

II Answer all the questions **10 x 2=20M**

1. Write the application of cooling feed water in industries.
2. What are the requirements of boiler water?
3. Mention the major role of Neutralization process in wastewater management.
4. What is equalization of waste water? Write about their types?
5. Mention the tolerable limits of the following industrial effluent parameters to be discharged into inland surface waters, on land for irrigation, public sewers and marine environment
   (a) Total suspended solids. (b) BOD 5 at 20 ^{0}C
6. What are the uses of municipal waste water?
7. Write down the typical characteristics of dairy industry raw effluent.
8. Differentiate between nitrification and denitrification.
9. What are the special characteristics of waste water?
10. Draw the schematic diagram of Steel Plants process?

PART-B

Answer all the questions **5 x 10=50M**

1. Explain the Boiler and Cooling water treatment methods in industries.

(OR)

2. Discuss about Brewery industries?
3. Write the characteristics & treatment process of domestic and industrial waste water.

(OR)

4. Discuss the advantages and consequent problems associated with combined treatment of industrial and domestic sewage.
5. Write about Eutrophication problems in lakes due to Industrial waste water disposal.

(OR)

6. What are the advantages and disadvantages of reusing of waste water?
7. What is the manufacturing process and design origin of liquid waste from textiles and paper?

(OR)

8. Discuss the textile industry wastewater treatment methods.
9. What are the advantages and suitability of waste water of common effluent treatment plants.

(OR)

10. Discuss critically the treatment and disposal of oil refinery wastes and explain the basic refinery operations with the help of a flow diagram.