AR13

CODE: 13CE3015   **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
III B.Tech II Semester Regular Examinations, May-2016

DESIGN OF CONCRETE STRUCTURES –II
(CIVIL ENGINEERING)

Time: 3 Hours   **Max Marks: 70**

PART-A
ANSWER ALL QUESTIONS   **[1 x 10 = 10 M]**

1. a) Location of critical section for shear in case of RC Column footing
   b) Write the equation for depth of foundation.
   c) What is the maximum positive radial moment when slab of radius (R) fixed at the ends and carrying a UDL (W kN/m)
   d) What percentage of negative moments are to be designed at interior support of a flat slab
   e) What is the impact factor for steel bridges
   f) Classify the bridges according to IRC loading
   g) Classify the concrete piles
   h) What are the different types of pile foundation
   i) Which code is used for design of water tanks?
   j) What is the minimum percentage of vertical distribution of steel in Water tank wall.

PART-B

Answer one question from each unit   **[5x12=60M]**
UNIT-I

2. A square column 500 x 500 mm carries an axial load of 1500 kN. Design the square isolated footing for the column, the SBC of soil is 225kN/m^2. Use M20 concrete and Fe415 steel.   12M

(OR)

3. Design a reinforced concrete rectangular combined footing for two columns each 400mm x400mm located 4 m between centres, each column carries an axial load of 1200 kN. A projection of the footing parallel to length of the footing beyond the axis of each column is 1 m. The SBC of soil is 275 kN/m^2 . Use M20 concrete and Fe415 steel.   12M

UNIT-II

4. A hall is Circular with an internal diameter of 6.0m . Design a simply supported slab for the hall for the live load of 3500 N/m^2. Assume partial fixity at the support. Use M20 concrete and Fe415 steel.   12M

(OR)

5. Design an interior pannel of a flat slab for a live load of 3000 N/m^2 the slab provided with a floor finishing weighing 1000N/m^2 .The panels are 5m x5m .drops shall be provided. Use M20 concrete and Fe415 steel.   12M

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UNIT-III

6. Design a slab bridge for the following data   12M
   Clear spam – 5m: Clear with of road way – 6.8 m: Live load acting – Class A loading: Mix use M20 and 415 grade of steel
   Average thickness of wearing coat = 80 mm Design as per IRC guidelines

   (OR)

7. a   Briefly explain the Classification of the bridges   6M
   b   Explain the components of bridges   6M

UNIT-IV

8. A column 300mm x300mm in section stands on a pile cap supported three piles.   12M
   The column is situated at the centroid of the pile group. The total load transferred to the column is 600kN .The piles are 1.2 m centre to centre. Design the pile cap. Use M20 grade concrete and Fe 415 steel.

   (OR)

9. The foundation of a structure is to consist of 12 piles to carry a total load of 15000   12M
   kN. The piles are 300 mm x 300 mm and are 5.25 m long. They are spaced at 1.50 m centres. Design one of the piles. The effective length of a pile may be taken as 0.50 times the actual length. Use M20 concrete and Fe 415.

UNIT-V

10. An open square tank 6m x6m x 3m deep rests on firm ground. Design the tank.   12M
    Use M 25 concrete and Fe 415 steel.

    (OR)

11. A reinforced concrete water tank is 5m x 3 m with a maximum depth of 2.20   12M
    meters. 150 mm x 150 mm splays are provided at the junction of walls and base slab. The tank is supported on brick masonry walls all round. Design the tank. Use M20 concrete and mild steel reinforcement.

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ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
III B.Tech II Semester Regular Examinations, May-2016

MANAGERIAL ECONOMICS AND MANAGEMENT SCIENCE
(Common to ECE and EEE)

Time: 3 Hours   **Max Marks: 70**

PART-A
ANSWER ALL QUESTIONS   **[1 x 10 = 10 M]**

1. a) Nature of Managerial Economics.
    b) Demand schedule.
    c) What is production function?
    d) Explicit cost.
    e) Unity of command.
    f) Define leadership.
    g) What is product life cycle?
    h) Define the word Selection.
    i) What is Placement?
    j) Job evaluation.

PART-B

Answer one question from each unit   **[5 x 12=60M]**
UNIT-I

2. (a) Waht Managerial Economics is about? Managerial Economics has both discriptive
         and perspective roles. Explain.
    (b) State the Law of demand. How would you explain it with substitution effect and
         Income effect?
                              (OR)
3. (a) Expalin the cocept of Income elacity of demand. How would you define necessities
         and luxuries on the basis of Income elacity of demand?
    (b) What is meant by Demand forecasting? Why is it so important for the Management
         of Business firms?

UNIT-II

4. (a) What are the three stages of short run production function? Why does it not make
         any Economic scence to produce in stage 1 or stage 3?
    (b) What are isoquants? Why does an isoquant slope downward? Why do they can't
         cut eachother?
                              (OR)
5. (a) Waht are increasing returns to scale? Show them on an isoquant map. Expalin the
         causes of increasing return to scale.
    (b) What is Break Even Point? How would you compute the Break Even Point?
         Explain its utility.

UNIT-III

6. (a) Expalin the various features of a perfectly competetive market. How is a price of a commodity determined under it?
    (b) What is Monopoly? Explain the three conditions necessary for the existence of Monopoly.

(OR)

7. (a) What is skimming price? When should we use skimming price as a pricing approach?
    (b) What is product differenciation? What role does it play in the determination of price and output under Monopolistic competetion?

UNIT-IV

8. (a) Define Management. What are the functions of Management?
    (b) Discuss in detail Henry Fayol's principles of Management and their relavence to the modern Organisations.

(OR)

9**.** (a) What is Social Responsibility? Explain the orguments for and against Social Responsibility of business towards society.
    (b) Discuss the importance of Herzberg's two factor motivational theory in an Organisation**.**

UNIT-V

10. (a) What is marketing mix? Explain each in detailed.
    (b) Define the word distribution channel. What are the benefits of an exclusive distribution strategy over an intensive strategy?

(OR)

11. (a) What is Human Resource Management? Disuss the functions of Human Resource Manager in a modern organisation.
    (b) What is an Interview? What are the different types of employment Interviews?

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ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
III B.Tech II Semester Regular Examinations, May-2016

METROLOGY
(Mechanical Engineering)

Time: 3 Hours   Max Marks: 70

PART-A

ANSWER ALL QUESTIONS   **[1 x 10 = 10 M]**

1. a) What is limit?
   b) Discuss British Standard System.
   c) How least count on Micrometer can be measured.
   d) What is the difference between go and no-go gauges.
   e) Listout the advantages of Optical projector.
   f) How straight edges of a component can be measured.
   g) Distinguish between wavinesss and roughness.
   h) Highlight the advantages of Comparators.
   i) Name any method to measure the effective diameter of screw threads.
   j) What are the various types of CMM.

PART-B

Answer one question from each unit   **[5 x 12=60M]**

UNIT-I

2. a) Sketch and explain the different types of fits?   **5 M**
   b) A 30 mm diameter shaft and bearing are to be assembled with a clearance fit. The   **7 M**
   tolerance and allowance are as under:
   Allowance = 0.003 mm
   Tolerance on hole = 0.004 mm
   Tolerance on shaft = 0.006 mm
   Find the limits of size for the hole and shaft if,
   i) The hole basis system is used
   ii) The shaft basis system is used

(OR)

3. a) Why hole basis system is preferred than compared to the shaft basis system?   **6 M**
   b) Explain clearly what is meant by "selective assembly". Give one practical example   **6 M**

UNIT-II

4. a) What are the least possible errors in vernier instruments?   **4 M**

   b) Explain the construction and use of   **8 M**
   i) Vernier bevel protractor
   ii) Optical bevel protractor

(OR)

5. a) A 200 mm sine bar is to be set an angle of 32°-5′-6″. Find the height of the gauge   **6 M**
   blocks required using an appropriate set of gauge blocks.
   b) Explain how angle of a taper plug gauge is measured with the help of angle dekkor   **6 M**
   and angle gauges.

UNIT-III

6. a) Describe with a neat sketch the principle of working of Tool maker's microscope? State the applications of this instrument. **6 M**

    b) Explain two different methods of testing flatness of a surface, stating advantages of each. **6 M**

(OR)

7. a) What is meant by interferometry? How is it applied to measure flatness? **6 M**

    b) Discuss with suitable sketches the functioning of the Auto collimator. **6 M**

UNIT-IV

8. a) State the units in which Ra value is expressed? Determine the Ra index number for which the graph was drawn to a vertical magnification of 15,000 and a horizontal magnification of 100 and the areas above and below the datum line were: **7 M**
    Above: 160   90   180   50 mm^2
    Below: 5   65   170   170 mm^2

    b) Explain the difference between a comparator and measuring instrument. State the fields of application of comparators. **5 M**

(OR)

9. a) Describe the principle and operation of Taylor Hobson Talysurf roughness measurement instrument. **6 M**

    b) Explain in brief the construction and working of a pneumatic comparator with the help of a neat sketch. **6 M**

UNIT-V

10. a) Describe with neat sketches three wire method of measuring the effective diameter of a screw thread. **4 M**

    b) What are the different elements of a spur gear which require inspection? Name the instruments used in the inspection of these elements with their expected accuracies. **8 M**

(OR)

11. a) Explain the principle of Co-ordinate measuring machine (CMM). Also give applications of CMM. **6 M**

    b) What is meant by alignment tests on machine tools? Why they are necessary? Explain. **6 M**

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CODE: 13CS3015   **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
III B.Tech II Semester Regular Examinations, May-2016
DATA WAREHOUSING AND DATA MINING
(COMPUTER SCIENCE ENGINEERING)

Time: 3 Hours   **Max Marks: 70**

PART-A
ANSWER ALL QUESTIONS   **[1 x 10 = 10 M]**

1. a) Define star schema?
    b) Draw the standard framework for metadata interchange.
    c) Differentiate between OLAP and OLTP.
    d) Classify OLAP tools
    e) What is the use of multilevel association rules?
    f) What are the Apriori properties used in the Apriori algorithms?
    g) List out the major strength of the decision tree Induction
    h) What is meant by pruning in a decision tree induction?
    i) Distinguish between classification and clustering.
    j) Mention the advantages of Hierarchical clustering

PART-B
Answer one question from each unit   **[5x12=60M]**

UNIT-I

2. a) Enumerate the building blocks of data warehouse.Explain the importance of metadata in a data warehouse environment.   6 M
    b) Write short notes on (i) Transformation (ii) Metadata   6 M

(OR)

3. a) Explain any four Data mining Tasks.   6 M
    b) Describe the various descriptive statistical measures for data mining.   6 M

UNIT-II

4. a) Discuss the typical OLAP operations with an example.   6 M
    b) With relevant examples discuss multidimensional online analytical processing and multi- relational online analytical processing.   6 M

(OR)

5. a) What are the different Data Mining Class Comparisons?   4 M
    b) How to Discriminate different Different Classes. Explain with an example.   8 M

UNIT-III

6. a) Describe the multi-dimensional association rule giving a suitable example.   6 M
    b) Explain Frequent item set generation in the Apriori Algorithm?   6 M

(OR)

7. a) Enumerate on the FP – Tree representations with neat diagrams.   5 M
    b) Discuss about candidate generation and pruning in detail?   7 M

UNIT-IV

8. a) Explain the algorithm for constructing a decision tree from training samples   6 M
    b) Explain Bayes theorem.   6 M

(OR)

9. a) Develop an algorithm for classification using Bayesian classification. Illustrate the   6 M
      algorithm with a relevant example.
   b) Explain Rule-Based Classification?   6 M

UNIT-V

10. a) Explain different types of data used in cluster analysis   6 M
    b) Describe K means clustering with an example.   6 M
                                    (OR)
11. a) Discuss in detail about any four data mining applications.   4 M
    b) . Write short notes on   8 M
       (i) Partitioning methods   (ii) Outlier analysis