AR13

CODE: 13CE3015 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, July-2018

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) Sketch the types of column heads provided in flat slabs
   b) Two way shear is critical at _____ distance from face of the column.
   c) When do you provide combined footing
   d) What are the components of a typical bridge?
   e) Draw a neat sketch of an elevated water tank showing components
   f) What is total load of IRC class A tracked vehicle?
   g) In which type of soil Under reamed piles are preferred?
   h) What is a skew bridge?
   i) Write the equation for depth of foundation.
   j) What are the loads that act on bridge deck

PART-B

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

UNIT-I

2. Design an isolated rectangular footing for a column of size 350mm x 500mm carrying an axial service load of 1200kN. The safe bearing capacity of the soil is 130 kN/m^2. Use M20 concrete and Fe-415 steel. Draw reinforcement detailing.

(OR)

3. Design a combined footing connecting two columns A &B, spaced at 4m centre to centre, carrying an ultimate axial load of 1000kN and 1400kN. The boundary line of the property is 400mm from the outer face of the column A. column A is 360mm x 360mm and column B is 420mm x 420mm in size. SBC of soil is 106 kN/m^2. Use M20 and Fe 415 steel.

UNIT-II

4. Design a roof slab for a circular room 4.5m inside diameter. The thickness of wall is 230mm and the slab projects outside the walls by 1m all around. The live load on the slab is 3kN\m^2 at service Use M20 concrete and Fe 415 steel.

(OR)

5. Design a typical flat slab which is supported on 500mm diameter circular columns spaced 6mx5m apart in both the directions. The live load on the flat slab is 4kN\m^2. Use Fe 415 steel and M20 concrete

UNIT-III

6. Design a solid slab bridge for effective span of 6.5m. The clear road way is 7.5m with 0.6m wide kerbs on either side. The bridge is to be designed for class AA tracked vehicle loading. Thickness of wearing coat is 80mm. Grades of materials to be used are M20 concrete and Fe415 steel.

(OR)

7. Design a culvert slab of effective span of 6m. The clear road way is 7.5m with 0.6m wide kerbs on either side. The bridge is to be designed for class A wheeled vehicle loading. Thickness of wearing coat is 80mm. Grades of materials to be used are M25 concrete and Fe415 steel

UNIT-IV

8. Design a pre-cast reinforced concrete 400mm diameter pile for transmitting an axial load of 500kN under service considerations. The pile is to be embedded in hard strata up to depth of 6m. Take embedment length of pile into the foundation as 100mm. The materials to be used are M25 concrete and HYSD steel of grade Fe 415

(OR)

9. Design a pile cap for supporting a column of section400mmx400mm carrying an axial load of 1000kN at service state. The pile cap contains a group of four friction piles each of 250mmdiameter for transfer of load from column to soil. Use M30 concrete and Fe 415 steel.

UNIT-V

10. Design a Circular tank with flexible base for a capacity of 300 kilo litres resting on ground having a soil with SBC of 150kN\m^2. Provide a depth of 4.0m with a free board of 250mm. The construction materials to be used are M30 grade concrete and Fe415 steel.

(OR)

11. Design a Rectangular tank resting on ground with internal dimensions as 6mx4mx3m high. Take the free board as 300mm. Use M30 grade concrete and HYSD steel of grade Fe415

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SUB CODE:13HS3005 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
III B.Tech II Semester Supplementary Examinations, July-2018

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

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

PART-A

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

1. a) Define Managerial Economics
   b) What is Law of Demand?
   c) Discuss about MRTS
   d) What is variable cost?
   e) Give a note on pricing strategies
   f) What is perfect competition?
   g) Discuss the functions of management
   h) Classify the types of leadership styles
   i) Highlight the concepts of HRM
   j) Briefly discuss on Grievance handling

PART-B

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

UNIT-I

2. a) Discuss the nature and scope of managerial economics
   b) What is demand forecasting? Highlight the factors governing the demand forecasting.

(OR)

3. a) What are the demand determinants? Explain with suitable example
   b) Explain the judgemental approach to demand forecasting with example.

UNIT-II

4. a) How production function differs in Iso-quants from that of Iso-costs
   b) Distinguish between explicit costs and implicit costs.

(OR)

5. Explain the following
   i) production function ii) Break even analysis

UNIT-III

6. Define Monopoly. Also discuss Monopolistic competition with suitable examples.

(OR)

7. Highlight the concept of pricing strategies used in various types of competitive markets.

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SUB CODE:13HS3005 **SET-1**

UNIT-IV

8. a) How concepts of management and organization differ from each other. explain
   b) Explain in detail Henry Fayal's 14 principles of management?

(OR)

9. a) Discuss the Taylor's scientific management theory.
   b) List out the various social responsibilities of management.

UNIT-V

10. What is the role of HRM in marketing? How functions of marketing are influenced by HRM.

(OR)

11. Explain the following
    i) Channels of distribution ii) Basic functions of HR manger

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CODE: 13ME3018 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

III B.Tech II Semester Supplementary Examinations, July-2018

METROLOGY

(Mechanical Engineering)

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

PART-A

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

1. a) Explain the significance of Shaft in Metrology.
   b) What is Fit?
   c) Write the role of optical flat in optical instruments?
   d) What is the accuracy of optical bevel protractor?
   e) Define fundamental deviation.
   f) What are collimating lens?
   g) Define CLA method of measurement of surface roughness.
   h) What are various errors in Screw thread ?
   i) Define effective diameter.
   j) Explain pressure angle in gear tooth.

PART-B

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

UNIT-I

2. a) Explain Unilateral system and Bilateral system of limits and Tolerances 6M
   b) Explain Hoe basis system and Shaft basis system. 6M

(OR)

3. a) Explain Inter-changeability and Selective Assembly. 6M
   b) Differentiate Tolerance and Allowance. 6M

UNIT-II

4. a) With a neat sketch explain the working of Vernier callipers. 6M
   b) Explain the working of Mechanical comparator. 6M

(OR)

5. a) Design a plug for the inspection of Hole of the size 50±0.02mm 8M
   b) Explain the working principle of Vernier Micrometer 4M

UNIT-III

6. a) Explain with a neat sketch construction and working of Tool maker's microscope. 8M
   b) Write about the straight edges 4M

(OR)

7. a) Explain the principle of Auto Collimator with neat diagram. 8M
   b) What are Optical flats. 4M

UNIT-IV

8. a) Explain any two methods of numerical assessment of surface roughness 8M
   b) Differentiate surface roughness and waviness. 4M

(OR)

9. a) Explain the working of Electrical comparator. 8M
   b) What are the symbols for indication of surface finish 4M

UNIT-V

10. a) What are the various errors in screw thread measurement 6M
    b) Explain the alignment tests on Lathe 6M

(OR)

11. a) How do you measure the gear tooth thickness with Vernier Gear tooth Callipers 6M
    b) Explain with a neat sketch the working of CMM. 6M

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CODE: 13CS3015 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
III B.Tech II Semester Supplementary Examinations, July-2018

DATA WAREHOUSING AND DATA MINING
(Common to CSE & IT)

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

PART-A

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

1. a) What is fact table?
   b) What is star schema?
   c) Define slice and dice operations?
   d) Write formula for Cosine similarity?
   e) Define Data Generalization?
   f) What is the disadvantage of apriori algorithm?
   g) What is pre-processing?
   h) Define entity identification problem?
   i) What are the partitioning algorithms?
   j) What are the points in DBSCAN algorithm?

PART-B

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

UNIT-I

2. a) Explain estimating data similarity and dissimilarity? **6M**
   b) Explain the general Criteria of data sets? **6M**

(OR)

3. a) How to full fill the missing values in the database using data cleaning technique? **6M**
   b) Define noise? Explain different techniques used to remove the noise data? **6M**

UNIT-II

4. a) Explain three-tier architecture of data warehousing? **8M**
   b) Explain OLAP indexing methods with example? **4M**

(OR)

5. a) Explain the various approaches to build a Data ware House? **4M**
   b) Explain Data Generalization with respect to Attribute Oriented Induction (AOI) **8M**

UNIT-III

6. a) Explain constraint based frequent pattern mining? **5M**
   b) Explain algorithm for mining frequent item sets using without candidate generation with suitable example? **7M**

(OR)

7. a) How to improve the efficiency of apriori algorithm? **6M**
   b) Explain Mining Frequent Item sets Using Vertical Data Format? **6M**

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UNIT-IV

8.	a)	Explain back propagation algorithm?	**8M**
	b)	How prediction is different from classification?	**4M**
		(OR)	
9.	a)	Explain decision tree induction algorithm in detail?	**8M**
	b)	Explain Bayes Theorem?	**4M**

UNIT-V

10.	a)	What are the different types of hierarchical algorithms? Explain any one algorithm?	**8M**
	b)	What are the issues in K-means clustering algorithm?	**4M**
		(OR)	
11.	a)	Explain DBSCAN algorithm with example?	**8M**
	b)	Differentiate K-means and K-medoid algorithms?	**4M**

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