AR13

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

CONCRETE TECHNOLOGY
(CIVIL ENGINEERING)

Time: 3 Hours   Max Marks: 70

PART-A

ANSWER ALL QUESTIONS   [1 x 10 = 10 M]

1. a) What is the effect of Admixtures in the Concrete mix design?
   b) What is meant by a Retarder?
   c) What is meant by Bulking Factor?
   d) What is meant by the term Flakiness index?
   e) Define the term Bleeding?
   f) Name the different types of Vibrators?
   g) Define the term water/cement ratio?
   h) Names the stages involved in the manufacture of Concrete?
   i) What is meant by Carbonation Shrinkage?
   j) Name the methods of proportioning of Concrete?

PART-B

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

UNIT-I
2. Explain the manufacture of ordinary Portland Cement by dry process?

(OR)

3. Explain about the Classification of Admixtures.

UNIT-II
4. a) Explain the procedure to be followed to find the grading of Fine Aggregates.
   b) Discuss the effect of Time and Temperature on Workability of Concrete.

(OR)

5. Explain about the Volume and Weigh Batching of Concrete.

UNIT-III
6. Define
   i)   Segregation.
   ii)   Schmidt's rebound hammer.
   iii) Resonant frequency test.

(OR)

7. Explain the advantages and Limitations of Ring Tension Test and Double Punch Test?

UNIT-IV
8. Explain about the relation between Modulus of Elasticity and Strength? What are the factors affecting the Modulus of Elasticity?

(OR)

9. Explain about Autogeneous Shrinkage and Carbonation Shrinkage?

UNIT-V
10. Explain the procedure to be followed for proportioning of concrete mixes with reference to ACI method?

(OR)

11. Explain about the IS method of concrete mix design.

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Code: 13ME2012

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
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II B.Tech II Semester Regular / Supplementary Examinations, May-2016

MACHINE DRAWING
(Mechanical Engineering)

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

Answer two questions from Part-A
&
Part-B is compulsory

PART-A

Answer any two questions from Part-A   **[2 X 15=30Marks]**

1 (a)   Draw the half sectional front view of a solid bearing which can hold a shaft of 40 mm diameter.

  (b)   Draw the half sectional front view and side view of a cotter joint with sleeve to connect two shafts of 25 mm diameter.

2.   Draw the following (Assume Suitable Dimensions):
      i) ACME Thread ii) Hexagonal Headed Bolt iii) Key with Gib Head
      iv) Knuckle thread

3.   Draw the sectional front view and top view of the double riveted lap Joint. Take the thickness of the plate and diameter of the rivet as 22 mm and 28 mm respectively.

PART-B

Part-B is compulsory   **[1x40=40Marks]**

4.   The detailed part drawings of stuffing box are shown in the figure 1. Draw the Assembly and represent the following views: a) Half sectional front view b) Top view

120

15

φ66

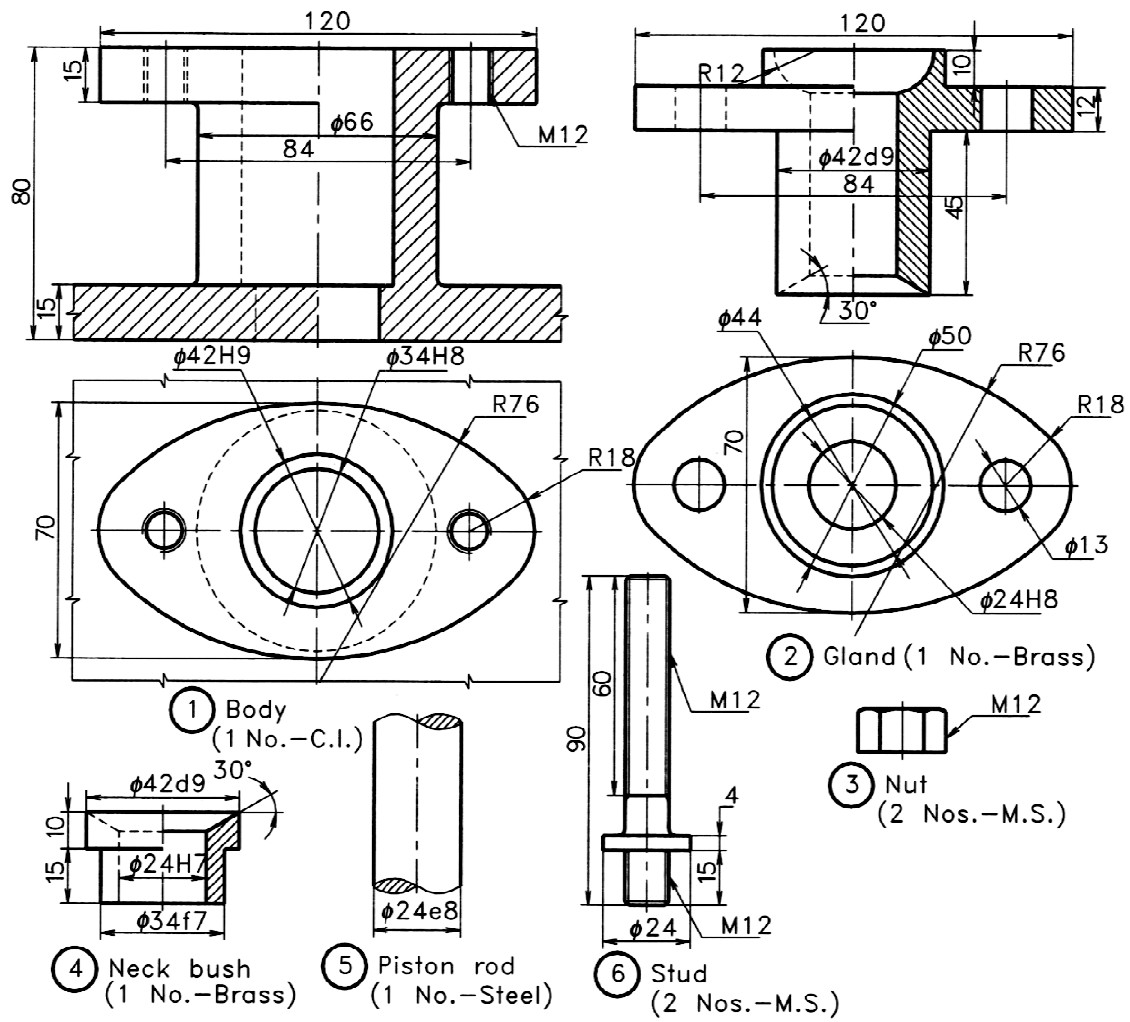84

M12

80

15

φ42H9   φ34H8

R76

70

R18

① Body
(1 No.—C.I.)

120

R12

10

12

φ42d9

84

45

30°

φ44

φ50

R76

70

R18

φ13

φ24H8

② Gland (1 No.—Brass)

M12

③ Nut
(2 Nos.—M.S.)

φ42d9   30°

10

15

φ24H7

φ34f7

④ Neck bush
(1 No.—Brass)

φ24e8

⑤ Piston rod
(1 No.—Steel)

60

90

M12

4

15

φ24   M12

⑥ Stud
(2 Nos.—M.S.)

Figure 1.

AR13

CODE: 13CS2010   **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
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II B.Tech II Semester Regular / Supplementary Examinations, May-2016

PRINCIPLES OF PROGRAMMING LANGUAGES
(COMMON TO CSE & IT)

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

PART-A

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

1.
   a) What are the advantages of a compiler?
   b) How to avoid ambiguity of a grammar?
   c) What mixed-mode assignments are allowed in C and Java?
   d) What is meant by early binding?
   e) Define function pointer in C
   f) What is in-out mode parameter passing?
   g) What is dangling else problem?
   h) What are the features of Haskell that makes different from Schema?
   i) What is the difference between checked and unchecked exception in java?
   j) What is an existential query?

PART-B

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

UNIT-I

2. Explain language evaluation criteria and the characteristics that affect them   **12M**

(OR)

3. a) What are the main features of the programming paradigm with examples?   **6M**
   b) Define CFG? What does it mean for CFG to be ambiguous?   **6M**

UNIT-II

4. a) Define syntax and semantics.   **3M**
   b) Explain the categories of semantics in detail.   **9M**

(OR)

5. a) Explain with an example how the weakest precondition for a logical pretest loop is derived   **8M**
   b) Write a short note on attribute grammar   **4M**

UNIT-III

6. a) What is a variable and what are the attributes of a variable? Elaborate on address of a variable   **6M**
   b) Discuss precedence and associativity rules of different programming languages   **6M**

(OR)

7. a) Explain loop structures in C++ and C#   **6M**
   b) Write a short note on i) coercion ii) Explicit type casting   **6M**

CODE: 13CS2010   **SET-2**

UNIT-IV

8.	a)	Write an analysis of the similarities and differences between java packages and C++ namespaces	**6M**
	b)	Explain how information hiding in provided in an ADA package.	**6M**

(OR)

9.	a)	What are the characteristics of co-routine feature. List the languages which allow co-routines	**7M**
	b)	How to implement generic functions in c++?	**5M**

UNIT-V

10.	a)	Define monitor? Explain how cooperation synchronization and competition synchronization are implemented using monitors	**6M**
	b)	Write a prolog description of your family tree (based only on facts),going back to your grand parents and including all descendants. Be sure to include all relationships	**6M**

(OR)

11.	a)	Discuss about basic elements of prolog. Give examples.	**6M**
	b)	Explain how data abstraction is implemented in ADA	**6M**

2 of 2

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