

B.E. (Civil) 3rd Semester Examination, Dec., 2011

Sub: Engineering Materials Construction and Services

CE-302

Time: 3 hours

Full Marks: 70

Use separate answer script for each half

First Half

Answer all the questions from first half

1. Answer any five of the following

- a. What is Incineration?
- b. What is considered as the desirable relative humidity at the working temperature of 21^o C?
- c. What is the main function of priming coat in painting?
- d. What is the function of a compressor in an air-conditioning system?
- e. What is un-soiling of clay in manufacturing of bricks?
- f. What type of fire fighting system is used in installations like petroleum refineries and storage areas and also electrical and electronic installations?
- g. What is the full form of MIG in housing parlance?

1 x 5=5

2. Fill up the blanks (any five):

- a. Material used for thermal or acoustic insulations is _____.
- b. Gases like _____ and R22 are common refrigerants.
- c. _____ in paint is also known as plasticizer.
- d. Slates are used as _____ and flooring material.
- e. Usual temperature difference between the inside and outside of a room should not be more than _____^o C.
- f. There are essentially two types of fire fighting systems viz. Water based and _____ based.

1 x 5=5

3. (a) Calculate the cost of installation of a transformer in a housing project to be done on a 5 acres of land on the basis of the following data:

FAR = 2.5; Type of housing = MIG, Cost of installation of 1 KVA Transformer including cabling = Rs. 10,000/-. Assume all other required data.

(b) Calculate the cost of water supply scheme of a housing project to be done on 5 acres of land on the basis of the following data:

FAR = 2.5; Type of housing = HIG; Cost of 1 gallon water supply scheme = Rs. 100/-

Assume all other required data.

2 x 10=20

4. (a) Briefly describe the composition of an Oil Paint _____
- (b) Describe the procedure of painting on old plastered surface
- (c) Write short notes on (i) Landfill and (ii) Biological reprocessing in Refuse Disposal
- (d) Distinguish between:
- (i) Vertical and Horizontal Pipes in Water supply
 - (ii) Multiple Overhead Storage System and Hydro pneumatic System

4 x 5=20

SECOND HALF

Answer question no 5 and any one from second half

5. Define the following terms with neat sketch (Any five)
- a. Stretcher bond and header bond
 - b. Mitred closer
 - c. Corbel
 - d. Queen closer
 - e. Bevelled closer
 - f. Coping
 - g. Parapet
- (10)

6. Mention the different types of bonds in brick work. Mention the points in supervising the brick work. Compare between brick masonry and stone masonry.

(10)

8. Classify the different stone masonry. Mention the different joints available in stone masonry. Briefly mention the supervision of stone masonry construction.

9. Define shallow foundation. Compare between shallow foundation and deep foundation. Mention the situations in which combined footing is used.

(10)