

Register Number:

B.E DEGREE EXAMINATIONS: NOV/DEC 2012

Third Semester

CIVIL ENGINEERING

CEE102: Building Services

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The stop cock knobs of wash basin showers shall have ____ mark on the hot water knobs.
a. Red b. Blue c. Yellow d. Black
2. In Escalators the slope of the stairs is standardized at____
a. 45⁰ b. 25⁰ c. 35⁰ d. 30⁰
3. The switch that controls the electrical supply to the entire building is ____
a. Iron Clad b. Push button c. Rotary nab d. Flush
4. While designing the sub circuit (electrical) the number of light and fan points should not exceed
a. 8 b. 10 c. 12 d. 6
5. The recommended level of illumination for class room is ____ lux
a. 200-300 b. 400-600 c. 800-1200 d. 1500-1800
6. As per NBC, the recommended design sky luminance for composite climate is ____ lux
a. 6800 b. 8000 c. 9000 d. 10500
7. The air movement required for comfort air conditioning____
a. 20m/min b.1.5m/min c. 40m/min d. 10m/min
8. ____ refrigeration system is the most widely used in commercial and domestic application
a. Ice b. Air c. Vapour d. Water
9. ____ is the bad conductor of heat and it is an effective material for fire resisting construction
a. Concrete b. Aluminium c. Glass d. Timber
10. Fire lifts should be provided when the height of the building is above____
a. 9m b. 12m c. 15m d. 18m

PART B (10 x 2 = 20 Marks)

11. State the uses of Dead Weight Valve and Non Return Valve in geyser.

12. Define the terms “Travel and Hoist way” with respect to Lift
13. Differentiate one way and two way switch
14. What is the principle in which the transformer works?
15. A hall 12m x 8m is illuminated by 20 Lamps with illumination of 120 lumen/m². Find the utilization coefficient of the room when each lamp gives an output of 1850 lumen.
16. Differentiate between additive and subtractive colour.
17. Define the term HEPA filter. Mention its use.
18. What is the principle of refrigeration?
19. List at least any three five escape elements in building.
20. What is smoke detector? Give example.

PART C (5 x 14 = 70 Marks)

21. a) (i) What are the various accessories used in geyser? Explain in detail with a neat sketch (7)
- (ii) Compare AC and DC supply (7)
- (OR)**
- b) (i) What are the different types of elevators? Explain any one type of elevator with a neat sketch (7)
- (ii) List out and explain the special accessories that are used in belt conveyors (7)

22. a) (i) List out the various protective device used in electrical installation and explain any two with neat sketch (7)
- (ii) Write brief note on transformer with respect to operating principle, types and application (7)
- (OR)**
- b) (i) Why is earthing is important for a building ?With a neat sketch explain any one type of earthing. (7)
- (ii) Draw a neat sketch of layout of electrical fittings in a residential building. (7)

23. a) (i) What are the special features to be considered in lighting for physically challenged/ elderly people? (7)

(ii) Find the ratio of MHSCP to MSCP when a 60 watts fluorescent lamp produces a luminous flux of 60 lumen/watt. (7)

(OR)

b) (i) Explain in detail about the artificial light sources (7)

(ii) A lamp giving 2000 a lumens in all directions is suspended 6m above the working plane. Calculate the illumination at a point on the working plane 6m away from the foot of the lamp. (7)

24. a) (i) Explain the construction and working of a refrigerator with a neat sketch (7)

(ii) List out the different types of starting relays used in practice and explain any one with a neat circuit diagram (7)

(OR)

b) (i) Define the term refrigerant. Mention names of various refrigerant and properties of a good refrigerant. (7)

(ii) What are the various modes of heat transfer? Give an example (7)

25. a) (i) List out the various recommendations NBC with respect to fire safety. (7)

(ii) Write short notes on automatic sprinkler system with a neat sketch. (7)

(OR)

b) (i) Discuss in detail the fire resisting properties of common building material. (7)

(ii) List out the special features required in various buildings for physically challenged / elderly person with respect to fire safety. (7)
