HDC-6502   Seat No. _____

B. Arch. (Sem. V) Examination

November / December – 2017

Environmental Science & Services - III

Time : **2** Hours]   [Total Marks : **80**

SECTION - I

1   Short notes :   **10**
   (1)   Define fire.
   (2)   What are components of fire?
   (3)   Classify fire
   (4)   What are Stages of fire ?
   (5)   What should be priority in case of fire- human life or property? Why?

2   Answer the following :   **10**
   (1)   Types of fire extinguisher based on extinguishing materials used.
   (2)   What is used for extinguishing fire caused by fossil fuel like petrol, diesel?
   (3)   Where are yard hydrants located- Around the building OR inside the building?
   (4)   What are intumescent coatings? Explain its working.
   (5)   Can you use intumescent coating on concrete members?

3   Explain with sketches :   **10**
   (1)   Explain fire escape staircase with a sketch @typical floor.
   (2)   Explain fire escape staircase with a sketch @ground floor OR Explain fire door with a sketch.

4   Short notes :   **10**
   (1)   Why do we need mechanical circulation within a building/ premise?
   (2)   Types of mechanical circulation?
   (3)   Types of elevator based on functions?
   (4)   Types of elevator based on working mechanisms?
   (5)   3 known brands of elevator companies.

OR

5 Answer the following : **10**

   (1) What does IBMS stand for ?

   (2) What do you understand by interface software?

   (3) What is Laser fencing?

   (4) What is an emergency protocol?

   (5) 3 possible services that can be included as IBMS.

SECTION - II

1 Attempt any four : **7×4=28**

   (a) Draw typical house wiring circuit with its explanation.

   (b) What are the wiring methods? Discuss in detail.

   (c) Explain ELCB.

   (d) What is fuse? Explain in detail.

   (e) Discuss earthing and its types.

   (f) Discuss lighting schemes.

   (g) Discuss general rules of wiring.

2 Calculate the lighting bill for the month of June@Rs. 7 **6** per kWh (1 unit@Rs. 7)

Item Name	Numbers	Hours of operation per day	Wattage
Fan	6	6	75
Tube light	6	4	40
TV	1	4	100
Refrigerator	1	24	200
Washing Machine	1	1	600
AC	1	5	1200
Bulb	4	2	20
Microwave	1	0.5	500

3 An illumination of 120 Lux is required at the main hall **6** and 250 Lux at the stage of a marriage hall having dimensions 30m*6m for hall and 8m*6m for stage. With the space height ratio 0.8 and height of hall and stage 4m, find out the number and position of lamps. Take utilization factor 0.6 and lamp efficiency 20 lumens per watt. Neglect the power loss due to depreciation.

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