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RM-7005

B. Arch. III (Sem. VI) Examination

May / June – 2010

AR - 606 : Building Services - III

Time : **3** Hours] [Total Marks : **100**

Instruction :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. Arch. 3 (Sem. 6)**

Name of the Subject :

☛ **AR - 606 : Building Services - 3**

☛Subject Code No. : **7 0 0 5** ☛Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Figures to the **right** indicate full marks.

(3) Support your answers with neat sketches.

Q-1 State true or false. 10

(a) 1. HVAC stands for high ventilatilation air controls.

2. CCTVs will be the first step in the implementation of the security system with devices such as window bars, security gates, security film, security grilles and good locks.
3. Most smoke detectors work either by optical sensors.
4. Energy savings does not come within the domains of BAS.
5. Metal detectors work on the principle of friction detection.
6. Biometric access controls work on the principle of identification by I-cards.
7. Occupancy sensors help in reducing the energy bills by optimizing the lighting intensity.
8. Moving walks help in conveying people from one floor level to the other.
9. Escalators do not use conveyer belts.
10. Today we have a choice of machine room less design of an elevator shaft.

Q-1 Answer in one line: 10

(b) 1. How does water help in suppressing the fire?

2. What are the three basic arms of fire triangle?
3. What are the effective extinguishing agents for oil-fires?
4. What should be used for the electrical circuit induced fires?
5. What does class-A types of fires mean?

6. What are the three basic domains to assess the fire severity?
7. State the bye laws for the design of internal courtyards in the residential towers.
8. How much fire resistance is required for fire escape stairs?
9. What is the size of a fire engine?
10. What is the working principle of smoke detectors?

Q-2 Long Answer Type (attempt any four) 40

1. What are key safety features of the escalators developed over time. with the help of an appropriate sketch list and elaborate at least five.
2. What are the different components of elevators explain with the help of a neat sketch.
3. What are the different lift shaft arrangements and lift shaft designs? Explain the safety feature of each.
4. What do you understand by active controls for fire safety
5. With the help of a schematic chart show the different domains of buildings as maintained by Centrally Controlled Monitoring System (CCMS).

Q-3 (a) How does fire spread within a building? List certain measures so as to control the spread of fire. 10

Q-3 (b) What are the safety and security concerns in prisons and security planning strategies for the same. 10

OR

Q-3 (b) What are the safety and security concerns in commercial mall and security planning strategies for the same. 10

Q-6 (b) Attempt any four: 20

1. Escape route design requirements
2. Concept of fire resistance
3. Car Parking bye laws for fire safety
4. Staircase design byelaws for fire safety
5 Different design arrangement of escalators
6 Panoramic lifts
7 Barrier control methods for security design