

P P SAVANI UNIVERSITY

Fifth Semester of B.Arch. Examination

December 2021

SAAR3120 Building Services - I

20.12.2021, Monday

Time: 09:00 a.m. To 12:00p.m.

Maximum Marks: 100

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures/sketches wherever required.
4. Use of scientific calculator is allowed.

- Q - 1 True or False [20]**
- (i) Summer & winter air conditioners mean the same thing.
 - (ii) There are only 2 types of air conditioners.
 - (iii) All units in split air conditioners are inside the premises.
 - (iv) Round trip is in escalator.
 - (v) Hydrants and sprinklers are only useful at terrace level.
 - (vi) Refuge areas are provided only in government buildings.
 - (vii) Compartmentation is only required to make buildings sound proof.
 - (viii) Escalator and elevator are the same.
 - (ix) Fire tanks are filled with inflammable substances.
 - (x) Wet and dry risers mean the same thing.
 - (xi) Assisted evacuation is only required when the building is not on fire.
 - (xii) Ventilation systems are absolutely unnecessary.
 - (xiii) Air handling unit is very important in split air conditioners.
 - (xiv) Hydraulic and Traction are types of staircases.
 - (xv) Evaporation causes additional temperature increase.
 - (xvii) Ventilation is only required in underground floor area.
 - (xviii) All types of air conditioners are of same price.
 - (xix) Egress routes are made for fire to penetrate through.
 - (xx) Fire tanks should always remain empty.
- Q - 2 (a) What is a fire tank? [05]**
Q - 2 (b) What is a round trip. [05]
- OR**
- Q - 2 (a) Write notes on different types of Air conditioners. [05]**
Q - 2 (b) What are the classes of fire? [05]
- Q - 3 (a) Explain different [05]**
Q - 3 (b) What is CCTV? [05]
- Q - 4 (a) Explain how air-conditioning works. [05]**
Q - 4 (b) What is jockey pump. [05]
- Q - 5 (a) Imagine you are in a building which has caught fire what shall you do in order to save yourself. [05]**
Q - 5 (b) Write notes on compartmentation. [05]

- Q - 6 (a) Explain different types of electrical fixtures. [05]
Q - 6 (b) Is fire drill necessary? Just your answer. [05]

Attempt any 3

- Q - 7 (a) Give an overview of vertical transportation in India. [10]
Q - 7 (b) Explain the advantages of hydraulic elevators over traction? [10]
Q - 7 (c) Explain in detail the concept of compartmentation. [10]
Q - 7 (d) Explain refuge area, evacuation area and egress route? [10]
