

# P. P. SAVANI UNIVERSITY

Third Semester of B.Sc Examination

Feb.-March-2020

SSFS2010-Fire Protection System

24.02.2020, Monday

Time: 12:30 p.m. to 03:00 p.m.

Maximum Marks: 60

## Section-A

**Q.1 Very Short Questions (attempt all questions) (10)**

**1.1 Objectives (10MCQ Compulsory-0.5 mark each) 05**

**1.1a** How often should sprinkler system tests be performed

- A At least every three months
- B Once per year
- C Only when there is a problem
- D After a fire occurs

**1.1b** Sprinkler system components such as gauges sprinkler control valves and the fire department connection should be inspected how often?

- A Monthly
- B Never
- C Annually
- D Only there is a problem

**1.1c** Which gaseous fuel has very low heating value?

- A Blast furnace gas
- B Coke oven gas
- C Water gas
- D Mond gas

**1.1d** Which gaseous fuel is called as town gas?

- A Natural gas
- B Coke oven gas
- C Coal gas
- D Mond gas

**1.1e** Which fuels are either natural or artificial fuels?

- A Gaseous fuels
- B Solid fuels
- C Liquid fuels
- D Nuclear fuels

**1.1f** Name the gas which is found in abundance in earth in both combine and free state with other elements?

- A Oxygen
- B Nitrogen
- C Hydrogen
- D Sulfur

**1.1g** What is the best tool available to us that can prevent a fire from creating victims?

- A A smoke alarm
- B A fire hydrant
- C A telephone
- D An extinguisher

1.1h How many smoke alarms is it suggested to have in a dwelling or house?

- A One is enough
- B One per room
- C One per floor
- D None

1.1i At what location is it preferable to install smoke alarms?

- A In the residence main entrance
- B In the laundry room, the kitchen and the bathrooms
- C In the hallways, near the bedroom
- D In a room exposed to fire

1.1j Name a gas which is used in refrigeration and in fire extinguisher?

- A Nitrogen
- B Hydrogen
- C Carbon dioxide
- D Methane

1.2 Five Questions (True/False-1 mark each)

05

- 1.2a Fire hydrant is passive fire protection system
- 1.2b Fire sprinkler is passive fire protection system
- 1.2c The open sprinkler is suitable for deluge system
- 1.2d Does sprinkler system is automatic
- 1.2e Fire door is active fire protection system

Q.2 Short Notes (attempt any two- 3 marks each)

06

- A Give your opinion why need of fire protection system
- B Explain in detail sprinkler system
- C Explain fire protection system

Q.3 Explain in detail (attempt any two-7 marks each)

14

- A Name and briefly explain the different type of 3 sprinkler head in use.
- B Give the criteria of spacing between sprinkler heads 6 for light hazard, ordinary hazard and high hazard categories.
- C Briefly explain the different between hydrant and sprinkler system.

### Section-B

**Q.1 Very Short Questions (attempt all questions) (10)**

**1.1 Objectives (10 MCQ Compulsory-0.5 mark each) 05**

**1.1a** What is the cause of sprinkler system failure

- A Low water pressure
- B Rock in the piping
- C No caps on the fire department connection
- D Lack of sprinkler system maintenance

**1.1b** Is it mandatory to have a smoke alarm in a house or dwelling?

- A No
- B Yes, in most municipalities
- C Yes, in all municipalities
- D None of the above

**1.1c** An active fire protection system, do include which the following

- A Fire proofing material
- B Fire doors
- C Fire sprinkler
- D Damper

**1.1d** Passive fire protection system, do not include which of the following?

- A Fire doors
- B Dampers
- C Wired glass windows
- D Fire sprinkler

**1.1e** When must a smoke alarm be replaced?

- A Every 20 year
- B Every 10 year
- C Every 5 year
- D Never

**1.1f** What should be done when the smoke alarm emits a continuous signal?

- A Panic and scream
- B Call the fire department right away
- C Attack the fire
- D leave and gather outside the residence

**1.1g** \_\_\_\_\_ fire extinguishers are specifically designed in order to tackle a Class F fire

- A Carbon dioxide
- B Wet chemical
- C Foam
- D Water



- 1.1h What should be done when the smoke alarm emits intermittent audible
- A Call the fire department
  - B Replace the smoke alarm
  - C Replace the battery
  - D Remove the battery
- 1.1i In an apartment building, who is responsible for testing and maintains smoke alarms, including replacing the battery?
- A The landlord
  - B The tenant of each dwelling
  - C All the tenants
  - D None of the above
- 1.1j After using a carbon dioxide fire extinguisher, the nozzle gets extremely cold. This is a sign that;
- A You should not use it
  - B It is safe to continue
  - C The material inside are
  - D None of the above

**1.2 Five Questions (Definitions-1 mark each)**

05

- 1.2a Fire
- 1.2b Sprinkler
- 1.2c Gaseous system
- 1.2d Valve
- 1.2e Health

**Q.2 Short Notes (attempt any two- 3 marks each)**

06

- A Explain in detail hydrant system
- B Explain in detail Carbon dioxide
- C Explain in detail sprinkler system

**Q.3 Explain in detail (attempt any two-7 marks each)**

14

- A Give your opinion on the need of instruction skill to fire service officers.
- B With help of a suitable diagram, explain the construction and operation utility of fire pump house with underground tank.
- C Briefly explain the advantage and disadvantage hydrant and sprinkler

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