

P. P. SAVANI UNIVERSITY

First Semester of B.Sc. Fire & Safety Examination
December -2022

SSFS1050-Fundamentals of Fire

14.12.2022, Wednesday Time: 09:00 a.m. to 11:30 a.m. Maximum Marks: 60

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 wherever required.
4. Use of scientific calculator is allowed.

Section-I (Total Marks - 30)

Q.1 Short Questions

1.1 Objectives(10MCQ Compulsory-0.5 mark each)

[10]

1.1a Use of class a type extinguisher

[05]

- A Solid combustible such as paper, wood
- B Electrical equipment's
- C Both
- D None of this

1.1b What are the three factors that cause fire?

- A Fuel, heat, oxygen
- B Oxygen, fuel, nitrogen
- C Both
- D None of this

1.1c Color band on carbon dioxide

- A Red
- B blue
- C White
- D black

1.1d Which type of extinguisher not used in case of electrical fire?

- A Halon
- B Co₂
- C Foam
- D Dcp

1.1e Which class of fire involves in electrical fire?

- A Class a
- B Class d
- C Class b
- D Class c

1.1f Which type of fire extinguisher used for liquid fire?

- A Class b
- B Class a
- C Class d
- D Class c

1.1g Which statement is incorrect about water extinguisher?

- A Used in class b fires
- B Used in class a fire
- C Both
- D None of this

1.1h Which classes of fires are caused by flammable liquids such as petrol?

- A Class a
- B Class b
- C Both
- D None of this

1.1i Which of the following is not caused by electrical fire?

- A Open door
- B Short circuit
- C Both
- D None of this

1.1j What is the color for portable water type fire extinguisher

- A Red
- B yellow
- C Blue
- D None of this

1.2 Answer the Following: (Definition, 1 mark each)

[05]

1.2a Fire

1.2b Flame

1.2c Fuel

1.2d Extinguisher

1.2e Ventilation

Q.2 Short Notes (Attempt any two-3 mark each)

[06]

A Write anatomy of fire? Explain fire service management.

B Define flame? Explain the types and flame spread in solid ,liquid and gas.

C Define fire load and describe its classification of fire load .

Q.3 Explain in detail (Attempt any two-7 mark each)

[14]

A Describe the method of extinguishment.

B Describe Hierarchy in industry and municipal corporation.

C Explain Fire triangle, tetrahedron, chain reactions, classification of fire - Class

A, B, C, D, Electrical

- Section-II (Total Marks - 30)

- Q.1 Short Questions [10]
- 1.1 Objectives(10MCQ Compulsory-0.5 mark each) [05]
- 1.1a Dcp such as BC or ABC extinguisher should not be used on fire
- A Inflammable gas
 - B Inflammable liquid
 - C Combustible solid
 - D Combustible metal
- 1.1b Flammable liquid having flash point 23 degree C And above but below 63 degree C
- A Class a
 - B Class b
 - C Class c
 - D None of this
- 1.1c Chemical fuels are
- A Gaseous,liquid,solid
 - B Only liquid
 - C Both
 - D None of this
- 1.1d Fire wind caused by
- A Fire depleting from atmosphere
 - B Not receive oxygen from atmosphere
 - C both
 - D None of this
- 1.1e Every extinguisher installed in premises shall be
- A Hydraulically pressure tested
 - B Non test required
 - C Both
 - D None of this
- 1.1f The extinguisher should tested
- A 6 month
 - B 3 month
 - C both
 - D None of this

1.1g Hose are used to carry fluids through

- A air
- B water
- C Both
- D None of this

1.1h Fire hydrant pump system is also known as

- A Fire pump
- B Hot pump
- C both
- D None of this

1.1i Heat of reaction measured by

- A calorimeter
- B hydrometer
- C both
- D None of this

1.1j Mechanical foam generator are used with

- A Foam making branch
- B Any branch
- C both
- D None of this

1.2 Answer the Following: (Definition, True/False, 1 mark each)

[05]

1.2a Fire load

1.2b Temperature

1.2c National building code(NBC)

1.2d Fire Detector

1.2e Alarm system

Q.2 Short Notes (Attempt any two-3 mark each)

[06]

A Describe National building code.

B Write down Classification of buildings based on occupancy as per NBC.

C Write down fire risk in building.

Q.3 Explain in detail (Attempt any two-7 mark each)

[14]

A Explain the Types of detectors, uses and operations.

B Explain the Types of alarm system.

C Describe the Ventilation in high rise building.