23101

21718

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **20**

a) Write physical and chemical properties of wood and plastics.

b) Write physical and chemical properties of solvents and oils.

c) Write physical and chemical properties of Magnesium and Aluminium.

d) Write physical and chemical properties of Methane and Acetylene.

e) Write classification of flammable materials.

f) Write classification of hazardous locations and area.

g) Write relation between divisions and zones.

Marks

2. Attempt any TWO of the following: **16**

a) Write in details storage, handling and transportation hazards of LPG.

b) Explain equipment protection categories on level and type of hazards.

c) Write in details about classification of temperature of vapours gases and dust.

3. Attempt any TWO of the following: **16**

a) Define fire and explain classification of fire with examples.

b) Write the principle of fire triangle and further development into tetrahedron of fire.

c) Write in details about principle of fire extinguishing methods.

4. Attempt any TWO of the following: **16**

a) Compare extinguishing properties of water, foam, DCP powder and CO_2.

b) Explain combustion of solids, liquids and gases with oxygen content in air.

c) Explain transmission of heat by conduction, convection and radiation with example.

5. Attempt any TWO of the following: **16**

a) How would you calculate fine load of a godown containing solids, liquids and gases materials.

b) What are the causes of electrical fire and hazards? Write about heating effect of electricity.

c) Explain:

(i) Static Electricity

(ii) Lightening Arrestor

Marks

6. Attempt any TWO of the following: **16**

a) Calculate the capacity of :

(i) Elliptical tank

(ii) Circular tank in liters.

b) Explain the relation between pressure P applied and discharging water at a velocity V for a straight stream nozzle.

c) Define water hose power mathematically? Explain break hose Power and efficiency of pump.