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GIET MAIN CAMPUS AUTONOMOUS GUNUPUR – 765022
B. Tech Degree Examinations, December – 2020
(Seventh Semester)

BMEPE 7032– FIRE AND SAFETY ENGINEERING
(Mechanical Engineering)

Time: 2 hrs

Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)

(1 x 10 = 10 Marks)

- Q.1. Answer ALL questions** [CO#] [PO#]
- a. The basic fire theory says that a fire needs four main elements in order to start: heat, fuel, oxygen, and _____ [CO1] [PO1]
 (i) Hydrogen sulfide (ii) Carbon dioxide
 (iii) A chain reaction (iv) Benzene
- b. Fire detection systems are the _____ line of defense in any fire protection program [CO3] [PO1]
 (i) first (ii) second
 (iii) third (iv) last
- c. _____ are one of the most dependable ways to fight a fire. [CO4] [PO1]
 (i) Work permits (ii) Automatic sprinkler systems
 (iii) Fire escapes (iv) Job safety analyses
- d. Fire _____ is based on the type of fuel used to feed a fire [CO1] [PO1]
 (i) Detection (ii) Classification
 (iii) Prevention (iv) Theory
- e. In case of electrical fire which fire extinguisher should be applied [CO3] [PO1]
 (i) dry powder (ii) CO2
 (iii) CO2 and dry powder (iv) water
- f. In order to put out a fire you should aim the fire extinguisher [CO1] [PO1]
 (i) down from above the fire (ii) At the bottom and circle around the fire
 (iii) at the base of the fire and sweep back and forth (iv) In the middle of the flame
- g. Which of the following colours allows you to identify the a foam from fire extinguisher [CO1] [PO1]
 (i) Blue (ii) Red
 (iii) Yellow (iv) Cream
- h. What is the leading cause of home fire [CO2] [PO1]
 (i) Smoking materials (ii) cooking equipment
 (iii) Heating equipment (iv) Chemical and gases
- i. Fire extinguishers are classified using the _____ classification system. [CO3] [PO1]

- (i) Centers for Disease Control and Prevention (CDC) (ii) American National Standards Institute (ANSI)
 (iii) Occupational Safety and Health Administration (OSHA) (iv) National Fire Protection Association (NFPA)

- j. Your main responsibility during an emergency is _____. CO4 PO1
 (i) To rescue your coworkers (ii) To order an evacuation
 (iii) Shutting down equipment (iv) Self-rescue

PART – B: (Short Answer Questions)

(2 x 5 = 10 Marks)

<u>Q.2. Answer ALL questions</u>	[CO#]	[PO#]
a. Write a short note on fire blanket	CO1	PO1
b. Write a short note on fire blanket	CO4	PO1
c. Write short notes common causes of electrical fire.	CO2	PO1
d. Explain emergency action plan.	CO4	PO1
e. Explain briefly on fire drill	CO3	PO1

PART – C: (Long Answer Questions)

(6 x 5 = 60 Marks)

<u>Answer ANY FIVE questions</u>	Marks	[CO#]	[PO#]
3. Give the procedure for carrying out a HAZOP study for a fire prone process industry.	(6)	CO4	PO1
4. Write notes on structure under fire.	(6)	CO2	PO1
5. Write a case study to develop an emergence plan for a building in which you work or attend class.	(6)	CO3	PO1
6. Enumerate the salient features of gas cylinder rules.	(6)	CO3	PO 1
7. Write notes on foam generation	(6)	CO1	PO1
8. Explain the hoses and its type	(6)	CO2	PO1
9. Write a case study on Responsibility of Fire Prevention Division in case of fire accident.	(6)	CO4	PO1
10. Explain grading of occupancies based on fire load.	(6)	CO1	PO1

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