

## MMIS-202

M.E./M.Tech. II Semester Examination, June 2020

### Fire Engineering and Explosion Control

Time : Three Hours

Maximum Marks : 70

**Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What do you mean by fire chemistry? Explain the importance of explosion control. 7  
b) Explain the concept of building and site planning for fire and safety. What are the different types of building construction methods? 7
2. a) What is non-combustible construction? Explain its types with fire resistance rating. 7  
b) Discuss the importance of industrial fire protection system. What is the importance of hydrant system used for fire protection? 7
3. a) Explain the pyrolytic decomposition of fuel. What do you mean by combustion chain reactions? 7  
b) What is gas and vapour cloud explosions? Differentiate between these two. 7
4. a) Explain the vapour pressure, flash point and boiling point of a fuel. How the ignition is occurring in a fuel? 7  
b) What do you understand by combustion of gases? Write a short note on vapour ignition premixed gas and air. 7
5. a) Write a short note on the following: 7  
i) Flame velocities  
ii) Flame flickers  
iii) Fire extinguishment  
b) What do you understand by preventing and mitigating gas explosions in the process industries? 7
6. a) Explain about Sprinklers system with neat sketches. 7  
b) Explain the need and importance of high velocity water spray system for explosion control. 7
7. a) What is the fire properties of gas, liquid and solid types of fuel used in firing? Explain the flammability limits of different types of fuels. 7  
b) What do you mean by the term of fire engineering and fire triangle? Explain its importance, application and need. 7
8. a) What is the function of sprinklers system in explosion control? Explain the discharge and pressure requirement for different types of occupancy required in sprinklers system. 7  
b) Discuss the importance of fire extinguisher used in explosion control. Write a board classification of different types of fire extinguisher used in industry. 7

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