B.E. (Fire Engineering) Sixth Semester (C.B.S.)

Fire Protection-II

P. Pages : 2 **NRT/KS/19/3961**

Time : Three Hours * 0 6 2 4 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Illustrate your answers whenever necessary with the help of neat sketches.
11. Use of non programmable calculator is permitted.

1. a) Describe the case study of industrial disaster occurred at flixborought – uk on 1st June 1974. Explain the root causes, damages caused and lessens learnt. **8**

b) Describe the difference between spill fires & pool fires. **5**

OR

2. a) Explain the case study of major fire occurred at LPG storage facility in Mexico on 19th Nov. 1984. Explain the occurrence damages resulted and lessons learnt. **8**

b) Describe the components of typical foam chemical (concentrate) used for making fire extinguishing medium foam on which fire foam is used. **5**

3. a) For fixed conical Roof type storage tank, describe the various fire safety measures? Suggest fire protection systems for this type of storage tank. **10**

b) How is the capacity of a dyke calculated for multiple storage tanks located in one dyke as per relevant international standards? **5**

OR

4. a) For floating Roof type storage tank describe the various fire safety measures? Suggest fire protection systems for this type of storage tanks. **10**

b) Give the classification of storage tanks of flammable liquids. Which type of storage tank can be considered for storing LPG under high pressure? **5**

5. a) What are the common causes of explosions in pressure vessels? Give two examples of safety devices on pressure vessels. **8**

b) Explain an Ideal Blast wave with a graphical diagram. **5**

OR

6.	a)	Describe occurrence of VCE (vapour cloud explosions). Explain the conditions for the occurrence of VCE.	**8**
	b)	Which factors are required for the occurrence of Dust explosions? Give the examples of explosive dusts with locations of occurrence.	**5**
7.	a)	What are the factors that cause cable fires? How to prevent them?	**8**
	b)	Write the classification of cable on the basis of the voltage as per IEC? Which are the types of cable trays.	**5**

OR

8.	a)	Which methods are employed for passive fire protection of cables.	**8**
	b)	Write the purpose of vertical cable tray fire test?	**5**
9.	a)	Explain the detection system for electronic equipment fires.	**7**
	b)	What are fire protection measures taken for electronic equipment?	**6**

OR

10.	a)	Explain the Flammability of electronic cabinets and electronic components.	**7**
	b)	Which fire extinguishing media proffered for electronic equipment why?	**6**
11.	a)	Explain the fire risk in transformers.	**7**
	b)	What are the fire protection measures taken for transformer installation?	**6**

OR

12.	a)	Classify the transformer or the basis of its cooling.	**7**
	b)	Describe the components of water spray system for transformer installations?	**6**

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