



# CBCS SCHEME

21CV385

Question Paper Version : A

## Third Semester B.E. Degree Examination, June/July 2023 Fire Safety in Buildings

Time: 1 hr.]

[Max. Marks: 50

### INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. For each question, after selecting your answer, **darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

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1. The element of the Fire Triangle are  
a) Heat, CO<sub>2</sub>, Fuel  
b) Heat, Oxygen, Fuel  
c) Oxygen, Wood, CO<sub>2</sub>  
d) None of these
  2. Any liquid with a flash point at or above 37.8°C and below 93.3°C is  
a) Flammable liquid  
b) Flammable solid  
c) Flammable gases  
d) Combustible liquid
  3. Limitation or removal of oxygen from the scene of fire is called as  
a) Starvation Effect  
b) Blanketing Effect  
c) Inhibiting Effect  
d) Cooling Effect
  4. Role of Class A extinguisher is  
a) Used on combustible such as wood and paper  
b) Used on flammable liquids  
c) Used on Electrically generalized fire  
d) Used on non-flammable metals
  5. Material with \_\_\_\_\_ specific heat will heat up more rapidly in fire conditions.  
a) Low  
b) High  
c) Low or high  
d) None of these
  6. Fire resistance is defined in terms of  
a) Temperature  
b) Strength  
c) Time  
d) Heat energy
  7. Which of the following has a higher rate of burning?  
a) Fire in open space  
b) Fire in an Enclosure  
c) Both a and b  
d) None of these

8. A fire that spreads rapidly through a diffuse fuel, such as dust, gas or vapour of ignitable liquid without the production of damaging pressure  
 a) Flash fire                      b) Bleve                      c) Flash over                      d) All of these
9. The \_\_\_\_\_ may be due to consumption of fuel in a fuel-controlled fire or continued oxygen depletion in a ventilation controlled scenario.  
 a) Incipient fire                      b) Fire growth                      c) Steady state                      d) Fire decay
10. The cement loses its cementing property due to loss of chemically bonded water and dehydration of CH at a temperature range of  
 a) 100 – 150°C                      b) 200 – 400°C                      c) 400 – 600°C                      d) 600 – 800°C
11. Based on National Building Code, amusement, recreation, social, religious etc comes under which group of classification  
 a) Group A                      b) Group B                      c) Group C                      d) Group D
12. One Fire station should be located at every  
 a) 2 Sq. miles                      b) 3 Sq. miles                      c) 4 Sq. miles                      d) 1 Sq. mile
13. \_\_\_\_\_ is considered as one unit of exit width  
 a) 250 mm                      b) 500 mm                      c) 300 mm                      d) 450 mm
14. The \_\_\_\_\_ is the number of square feet of floor area required per occupant  
 a) Exit capacity                      b) Exit Discharge                      c) Occupant load                      d) Travel distance
15. The preferred method of using a fire extinguisher goes by what acronym?  
 a) Light                      b) Putout                      c) Pass                      d) Fire
16. \_\_\_\_\_ type of smoke detectors will be used for kitchens and restaurants.  
 a) Ionization smoke detector                      b) Photoelectric smoke detector  
 c) Heat detector                      d) Smoke detector
17. Photoelectric smoke detector works on the principles of flow of  
 a) Beam of light                      b) Electric current                      c) Heat                      d) Smoke
18. \_\_\_\_\_ gas is stored under pressure in case of pressurized gas suppression system.  
 a) Carbon dioxide                      b) Nitrogen                      c) Oxygen                      d) Carbon monoxide
19. What is the purpose of counter weight?  
 a) It looks good                      b) To balance the load of car  
 c) To balance the weight of rope                      d) To confirm to Master Dogen's instructions
20. In order to ensure minimum interference, the maximum travel distance between users and the lift should be  
 a) 100 – 150 ft                      b) 250 – 300 ft  
 c) 150 – 200 ft                      d) 350 – 400 ft
21. Water supply includes  
 a) Collection, transformation and treatment of water  
 b) Distribution of water to consumers  
 c) Provision of hydrants for fire fighting  
 d) All of the above

38. Air conditioning involves  
 a) Control of temperature  
 b) Control of humidity  
 c) Control of air motion and air purity  
 d) All of these
39. Room A.C. delivers conditioned air to an enclosed space without any  
 a) Fan  
 b) Ducts  
 c) Blower  
 d) Air filter
40. What is the name of the device which controls temperature in window A.C?  
 a) OLP  
 b) Relay  
 c) Thermostat  
 d) Selector switch
41. Alkali Aggregate reaction can be prevented by  
 a) Adding finely powdered silica to the concrete mix  
 b) Cutting the contact of concrete from external source of moisture  
 c) Reducing the alkali content of cement to less than 0.6%  
 d) All the above
42. The reaction of carbon dioxide with hydrated cement is known as \_\_\_\_\_  
 a) Corrosion  
 b) Silica-Alkali reaction  
 c) Carbonation reaction  
 d) Unsoundness
43. To reduce the corrosion of reinforcement, the chloride ions should be limited to its critical or threshold value (% by mass of cement) of  
 a) 0.5  
 b) 0.1  
 c) 0.15  
 d) 0.2
44. Which test is adopted for assessing the uniformity of the hardened concrete within the structure?  
 a) Ultrasonic Pulse velocity test  
 b) Resonant Frequency method  
 c) Surface Hardness method  
 d) Pulse echo method.
45. \_\_\_\_\_ instrument is used to determine the concrete over the reinforcement.  
 a) Odometer  
 b) Speedometer  
 c) Pachometer  
 d) Tachometer
46. White washing is done during  
 a) Annual repair  
 b) Day to day repair  
 c) Special repair  
 d) Monthly repair
47. \_\_\_\_\_ type of fibers are used for making helmets and bullet proof garments.  
 a) Carbon fibres  
 b) Glass fibres  
 c) Aramid fibres  
 d) Sisal fibers
48. Which of the below material is used for covering the cracks in the concrete?  
 a) Glue  
 b) Chalk powder  
 c) Epoxy resin  
 d) Gypsum
49. If the concrete not effected by carbonation is indicated by \_\_\_\_\_ color.  
 a) Purple  
 b) Blue  
 c) Green  
 d) Pink
50. \_\_\_\_\_ technique is adopted for improving the lateral load carrying capacity of structure.  
 a) Strengthening of individual footings  
 b) Near surface mounted reinforcement  
 c) Section Enlargement  
 d) Jacketing

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