


| Name:   |   |  |     |
|---|---|--|-----|
| Enrolment No:   |   |  |     |
| <b>UPES</b><br><b>End Semester Examination, May 2024</b>  |   |  |     |
| <b>Course:</b> Fire Engineering II (Planning & Design)<br><b>Program:</b> B Tech- Fire & Safety Engineering<br><b>Course Code:</b> HSFS2016<br>Instructions: Attempt all the questions. |   | <b>Semester: IV</b><br><b>Time: 03 hrs.</b><br><b>Max. Marks: 100</b>              |     |
| <b>SECTION A</b><br><b>(5Qx4M=20Marks)</b>  |   |  |     |
| S. No.  | Questions   | Marks  | CO  |
| Q 1   | What are the types of ropes and ladders used in the fire service?   | 4  | CO1 |
| Q 2   | Describe the function of hose reels and hose fittings in firefighting operations  | 4  | CO3 |
| Q 3   | Describe the actions to be taken upon arrival at a fire incident.   | 4  | CO1 |
| Q 4   | Name various type of sprinkler system.  | 4  | CO1 |
| Q 5   | Name various components of fire trucks.   | 4  | CO2 |
| <b>SECTION B</b><br><b>(4Qx10M= 40 Marks)</b>   |   |  |     |
| Q 6   | Explain the role of safety equipment in ensuring personnel safety during firefighting operations.<br><p style="text-align: center;">OR</p> Explain the different types of firefighting branches and their applications.                             | 10   | CO2 |
| Q 7   | Enlist the various components to be mentioned in the “General information sign” for sprinkler system.   | 10   | CO1 |
| Q 8   | Critically evaluate the components that should be covered in a search and rescue operation plan and their importance in ensuring successful outcomes.   | 10   | CO4 |
| Q 9   | Assess the effectiveness of hydraulic rescue equipment in a vehicle extrication exercise.   | 10   | CO4 |
| <b>SECTION-C</b><br><b>(2Qx20M=40 Marks)</b>  |   |  |     |
| Q 10  | Explain in detail the class of standpipes and their applications.   | 20   | CO1 |
| Q 11  | Design a training program for firefighters on the use and maintenance of hydrants and standpipes.<br><p style="text-align: center;">OR</p> Develop an emergency response plan for a fire incident, including action on arrival and control measures | 20   | CO5 |