


| Name: Enrolment No: |  | | |
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| UPES End Semester Examination, May 2023 | | | |
| Course: Health, Safety & Environment in Oil & Gas Industry Semester: VIII Program: B.Tech Applied Petroleum Engineering (APE) Time : 03 hrs. Course Code: HSFS 4015 Max. Marks: 100 | | | |
| Instructions: <u>Open Book Test (Statutory acts / rules print out, PPT used in class, Industrial safety books, and OSHA safety hazards print out can be brought for the exam).</u> | | | |
| SECTION A (5Qx4M=20Marks) | | | |
| S. No. | | Marks | CO |
| Q 1 | The “Factories Act 1948”, defines the term, “Occupier”, as a person who: a) has partial control over the affairs of the factory b) has ultimate control over the affairs of the factory c) is a nominal head and has no control over the affairs of the factory d) None of these | 4 | CO1 |
| Q 2 | A “factory” means any premises including the precincts thereof— I. whereon ten or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on with the aid of power, or is ordinarily so carried on, or II. whereon twenty or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on without the aid of power, or is ordinarily so carried on. a) I and II are incorrect b) I is only correct c) II is only correct d) none of the above | 4 | CO1 |
| Q3 | Air pollution, and specifically dust can be reduced in the ground by: a) water sprays b) sealing unpaved roads c) a only d) a and b both | 4 | CO5 |
| Q4 | Please describe in brief any five elements of Process Safety Management (PSM). | 4 | CO3 |
| Q5 | Please assume that you are a Factories Inspector appointed by the State Government under the, “Factories Act 1948”. You are visiting a factory on a surprise check, and the factory representatives do not allow you entry. Please explain in brief the steps you will take regarding penalty as you are obstructed from performing your duties. | 4 | CO2 |

| SECTION B (4Qx10M= 40 Marks) | | | |
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| Q6 | Please state the duties of the, “occupier”, for provision of latrines, urinals and spittoons in line with the, “Factories Act 1948”. Please explain clearly the requirements for less than and more than 250 workers separately. | 10 | CO4 |
| Q7 | Please refer to the, “Indian Explosives Act 1884”, and explain the following: a) Powers of government for inquiry into accidents b) Powers of government for more serious accidents | 10 | CO1 |
| Q8 | Please refer to the, “Explosives Act 1884”, and define the following: a) Aircraft; b) Carriage; c) Manufacture; d) Vessel; e) Master | 10 | CO1 |
| Q9 | Explain the following terms with examples in relation to Oil & Gas exploration: a) Caught in; b) Caught between; c) Struck by; d) Falls; e) Ergonomic Hazards OR Define role of management, organization and administration in safety policy formulation and implementation. Please use appropriate example for defining the three roles if necessary. | 10 | CO3 |
| SECTION-C (2Qx20M=40 Marks) | | | |
| Q10 | Please refer to the, “Indian Explosives Act 1884”, and describe the following: a) Power of Inquiry into accidents (section 9) b) Power to inquire into more serious accidents (section 9 A) c) Differences if any, in the concept or the stated powers between (a) and (b) above. | 20 | CO1 |
| Q11 | Please refer to the, “Indian Explosives Act 1884”, and explain the following: a) Punishment for certain offences; b) Offences by companies; c) Forfeiture of explosives; d) Distress of aircraft or vessel OR Please explain in relation to the, “Indian Explosives Act, 1884”: a) Why powers to make rules / powers of inquiry etc. have been vested in the Central Government and not the State Governments. b) If the State Governments were given the powers as in (a) above what issues / difficult conditions would arise. c) Is the act applicable to states that enjoy special status within the Indian Constitution. If yes, why and if no, why. | 20 | CO3 |