



UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA

SECOND SEMESTER EXAMINATIONS, MAY, 2018

COURSE NO: ES 376

COURSE NAME: FIRE AND ROAD SAFETY

CLASS: ES III

TIME: 3 HOURS

Name: _____ Index Number: _____

SECTION A:

ATTEMPT ALL QUESTIONS

1. Define the following terms **(3 Marks)**
 - a. Flash point
 - b. Fire point
 - c. Flash over
2. Outline the precautions necessary for safe storage of flammable solvents **(2 Marks)**
3. Identify four features of safe means of escape from a building in the event of fire **(4 Marks)**
4. List four roles of a fire marshal in the event of fire **(2 Marks)**
5. State the factors to consider when determining crash avoidance space **(2 marks)**
6. Identify the issue to consider for the location of fire assembly point at the work place **(2 Marks)**
7. Outline 4 main factors to consider in siting of fire extinguishers **(2 Marks)**
8. identify four types of fire extinguishers and in each case state the class of fire on which they should be used **(4 Marks)**
9. Explain the mechanism of operation of “heat detecting” fire detectors. **(2 marks)**
10. The causes of road traffic accidents depend on a list of factors which can be broadly divided into four factors. List them. **(2 Marks)**
11. Mention the 2 main significances of the modern BA system in the event of fire **(2 Marks)**
12. Identify the three basic vehicle hazards at work. **(3 marks)**

SECTION B

ANSWER QUESTION ONE AND ANY OTHER QUESTION

- 1a) A major problem facing most oil and gas companies is fire and explosion. You have been employed as the HSE manager in an oil and gas company noted for frequent fire outbreaks, describe in details the measures and procedures you will institute to curb this menace. **(10 Marks)**
- 1b) Safe driving policy is essential to reduce the number of vehicular accidents at work. Briefly describe any 4 elements of any good safe driving policy **(8 Marks)**
- 1c) Outline any four benefit of safe driving policy **(2 Marks)**
2. Many oil and gas facilities have marine terminal operations including the loading and discharge of oil and gas products to and from tankers and barges.
- 2a) Outline conditions that are necessary to ignite a flammable liquid. **(4marks)**
- 2b) Outline 4 possible consequences of a fire occurring on a vessel moored at a marine terminal. **(2 marks)**
- 2c) Outline arrangements that could be made in order to protect the vessel and marine terminal in the event of a fire. **(2 Marks)**
- 2d) Outline measures that could be introduced to overcome the behavioural problems of people in the event of a fire. **(2 Marks)**
3. There are many control measures necessary for workplace transport safety. These can be summarized into three aspects of control strategies.
- 3a) Briefly describe the 3 aspects of control strategy necessary for workplace safety. **(6 marks)**
- 3b) Outline 4 means by which risk of accidents from reversing vehicles within a workplace can be reduced. **(2 Marks)**
- 3c) Outline 4 vehicular associated activities with high fire risk. **(2 Marks)**

Examiner: Francis Krampah