


Name: Enrolment No:	 UPES UNIVERSITY WITH A PURPOSE
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination July 2020	
Course: Health, Safety, Security and Environmental Implications in Oil and Gas Industry Program: B. Tech CSE spl. O&G Informatics Course Code: CSIT441	Semester: VIII Time 03 hrs. Max. Marks: 100
Instructions: Please attempt all questions from Section “A”, Section “B” and Section “C”.	

Section A (06x05 =30Marks)
(All questions are compulsory)

Q1) Fill in the blanks **05 Marks**

- a) Vibration is an example ofhazard.
- b) The E&P forum is an international association of oil companies and petroleum industry organizations formed inyear.
- c) When oil mixes with water, it forms a substance referred to asthat sticks to feathers and fur.
- d) Corrosion by.....increases with temperature and with increasing sulfur content.
- e) Rapid Environmental Impact Assessment is the initial feasibility study carried out for a minimum period of months.

Q2) Choose the correct answer **05 Marks**

- a)is a closely woven cotton fabric that protects against cuts and bruises when handling heavy, sharp or rough materials.
 (i) Duck (ii) treated wool (iii) Neoprene (iv) None of these
- b) Flaring, venting and combustion are the primary sources of.....emissions from production operations occurring in an oil and gas industry.
 (i) Carbon dioxide (ii) Nitrogen dioxide (iii) Carbon monoxide (iv) None of these
- c) Select the technology used in oil and gas industry for solid waste treatment
 (i) Skimming (ii) Land spreading (iii) Mechanical centrifugation (iv) All of these
- d)is/are an example of acute toxins.
 (i) Arsenic (ii) Nitrogen di oxide (iii) Hydrogen sulfide (iv) All of these
- e) PSH stands for
 (i) High pressure sensor (ii) High process sensor (iii) Personal safety hazard (iv) None of these

Q3) Write True or False **05 Marks**

- a) Everybody working in a petroleum installation must receive at least a basic firefighting training before he/she is assigned any work. **True/ False**
- b) Oil Industry Safety Directorate is a technical directorate under the Ministry of Petroleum and Natural Gas. **True/ False**

- c) Before starting up a new installation after completing construction requires a comprehensive programme of pre-startup audits/reviews. **True/ False**
- d) **Toe guards** protect the lower legs and feet from heat hazards such as molten metal or welding sparks. **True/ False**
- e) Piper Alpha platform accident took place on 6th July,1988. **True/ False**

- Q4) Expand following abbreviations 05 Marks**
- a) PSD
 - b) SAT.....
 - c) DMC.....
 - d) SEG's.....
 - e) GHG.....
- Q5) Define term-Disaster and Personal Protective Equipment. **2.5+2.5=05 Marks**
- Q6) List the effects of toxic substances / carcinogens on the human health. **05 Marks**

Section B (05x10=50 Marks)

(All questions are compulsory. However, internal choice is given between Question No.10 & Question No. 11, student has to attempt either Question No.10 or Question No.11.)

- Q7) Briefly explain the EIA methodology adopted by an EIA expert to investigate whether the proposed developmental project is ecofriendly or not. **10 Marks**
- Q8) Discuss different types of hard hats worn by the industrial workers to protect them from severe head injuries. **10 Marks**
- Q9) Differentiate between unit specific emergency response plan and on-site disaster management plan. **10Marks**
- Q10) Describe the salient features of electrical safety standards which are applicable in oil and gas installation. **10 Marks**

OR

- Q11) Describe the salient features of machine and equipment guarding standard which are applicable in oil and gas installation. **10 Marks**
- Q12) Discuss the process of health risk assessment (HRA) which is adopted to control the potential health hazards of an installation. **10 Marks**

Section C (02x10=20 Marks)

(Question No. (13) is compulsory; however, internal choice is given between Question No.14 & Question No.15, student has to attempt any one question either Question No.14 or Question No.15)

- Q13) Write short notes on **05+05=10Marks**
- a) Role of Emergency Control Centre/ Emergency Control Room
 - b) Objectives of disaster / emergency management plan
- Q14) Explain how depressurization system implemented in an installation protects it from major accidents/disasters. **10 Marks**
- OR**
- Q15) Name any five permit to work system applicable in oil and gas industry. Briefly discuss the elements of permit to work system. **10Marks**

