

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2020

Program Name: B. Tech CSE spl. O&G Informatics
Course Name : Health, Safety, Security and Environmental
Implications in Oil and Gas Industry
Course Code : CSIT 441
No. of page/s: 02

Semester: VIIIth
Max. Marks: 100
Time: 03 Hrs

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 (01+01+02+01=05 Marks)**
- a) EIA was introduced in India in 1978, initially forprojects.
 - b) Ozone depleting substances are used in some fire protection systems primarily is
 - c) Paper-like fiber used for disposable suits provide protection againstand
 - d) The Chief ofnominates the team for a mini audit in consultation with individual departments.
- Q2) Choose the correct answer (05x01=05Marks)**
- a) Work permit are required for.....
(i) Confined space work (ii) Excavation (iii) Electrical isolation (iv) All of these
 - b) Fast.....shall be primary mean of avoiding rupture of pressure vessels/piping which may cause escalation.
(i) Flaring (ii) Venting (iii) Depressurization (iv) Exploration
 - c) Disaster management act was introduced inyear.
(i) 2006 (ii) 2003 (iii) 2005 (iv) 2009
 - d) Gas detector in HVAC supply shall be located at the.....
(i) Big intake (ii) Duct opening (iii) Air intake (iv) Air vents
 - e)hard hats provide the highest level of protection against electrical hazards, with high- voltage shock and burn protection (up to 20,000 volts). They also provide protection from impact and penetration hazards by flying/falling objects.
(i) Class A (ii) Class B (iii) Class C (iv) All of these
- Q3) Write True or False (05x01=05Marks)**
- a) UNEP established its industry and environment office (UNEP IE) in 1970 to bring industry and government together to promote environmentally sound industrial development. **True/ False**
 - b) Disasters are minor accidents which cause wide spread disruption of human and commercial activities. **True/ False**
 - c) Metatarsal guards fits over the toes of regular shoe to protect toes from impact and compression hazards. **True/ False**
 - d) A unit specific emergency response plan is a plan prepared by every unit considering the emergency scenarios envisaged in the risk register. **True/ False**
 - e) Ricin is an example of acute toxins. **True/ False**

Q4) Expand following abbreviations (05x01=05Marks)

- a) HGVs
- b) NTP.....
- c) TPAs.....
- d) AEC.....
- e) ESD.....

Q5 Define term- Hazard and Environmental Impact Statement (2.5+2.5=05 Marks)

Q6 Name the sources which are responsible for producing principal aqueous waste streams during oil and gas exploration and production operations. (05 Marks)

Section B (05x10=50 Marks)

(All questions are compulsory. However, internal choice is given among Question No.10 & Question No.11, student may attempt any one question either Question No.10 or Question No.11)

Q7) Briefly explain different elements of major disaster management plan / major emergency management plan. (10Marks)

Q8) What is the importance of acidizing an Oil Well? Discuss the three general classes of acid treatment? (10Marks)

Q9) Personal protective equipment, commonly referred to as "PPE", is an equipment worn to minimize exposure to a variety of hazards. Discuss different types of gloves worn by oil and gas industry workers to protect against various types of hazards. (10Marks)

Q10) Briefly explain different safety and health hazard associated with oil and gas extraction activities. (10Marks)

OR

Q11) Explain any five elements of Process Safety Management System (PSM). (10Marks)

Q12) Write short notes on- (05+05=10Marks)

- a) Petroleum and Natural Gas Regulatory Board
- b) Oil Industry Safety Directorate

Section C (02x10=20 Marks)

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

Q13) Describe the salient features of HSE policy which are applicable in oil and gas industries. (10Marks)

Q14) Explain various methods used for controlling oil spills. (10Marks)

OR

Q15) Discuss rapid EIA and comprehensive EIA. List various benefits of EIA? (05+05 = 10Marks)