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Name of the College (Please tick, symbol is given)	:	COE S	√	CMES		COLS	
Program/Course	:	B.Tech. APE, APE (Gas), RPCE, GSE					
Semester	:	VIII					
Name of the Subject	:	Safety Health & Environment Management					
Subject Code	:	EMVO 401					
Name of Question Paper Setter	:	Dr. Kanchan Bahukhandi					
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UNIVERSITY OF PETROLEUM
AND ENERGY STUDIES



End Semester Examination – April, 2017

Program/course: B.Tech. APE, APE (Gas), GSE, RPCE

Semester –VIII

Subject: Safety Health & Environment Management

Max. Marks : 100

Code : ENVO 401

Duration : 3 Hrs

No. of page/s:

Section A : (4 x 4 = 20 Marks)

Note : Attempt all questions from section “A”. Each question carry equal marks.

Q.1. Choose the correct answer : (5 Marks)

i) Full form of SCBA

- a) Self control breathing apparatus b) Self cause breathing apparatus
c) Self content breathing apparatus d) Self costing base apparatus

ii) Minamata disease is caused by accumulation of

- a) Lead b) Cobalt c) Mercury d) Arsenic

iii) Electrostatic Precipitator remove

- a) Sulphur dioxide b) Nitrogen Oxide c) Particulate Matter d) Fog

iv) The emergency situation arising in one or more plants/areas which has the potential to cause serious injuries, property loss and/or environmental damage in the installation.

- a) Level 1 b) Level 2 c) Level 3 d) None of these

v) The world worst industrial Bhopal Gas Disaster occurred due to leakage of

- a) Hydrogen Sulphide b) Methyl Iso-cynate c) Methane d) Chlorine

Q.2. Fill in the blanks : (5 Marks)

- i) ----- is the process in which the amount of toxic substance goes on increasing along with food chain.
ii) ----- remove oil and grease from waste water in effluent treatment plant.

- iii) -----procedures are designed to protect workers in confined spaces from outside hazards, such as gases or liquids being pumped accidentally into a confined space that could result in fatal injuries
- iv) The EIA process in India was made mandatory and was also given a legislative status through a notification issued in January -----.
- v) The flammability characteristics in Class A confined space is -----%-of LFL.

Q.3. Write full form of following abbreviations: (5 Marks)

- i) EIS-----
- ii) ALARP-----
- iii) IDLH-----
- iv) BOD & COD-----
- v) MSDs & PHA-----

Q.4. Define the followings : (5 Marks)

- a) Non Permit required confined space (2Marks) b) Acute effect of pollutant (3 Marks)

Section “B” (10 x 4 = 40 Marks)

Note : This section is divided into two parts B1 and B2. All questions carry equal marks. Student are required to attempt all questions from Part B1 and however choice is given in part B2, student may attempt any one question from part B2 is that either Q.8 or Q.9

Part B1 (All questions are compulsory)

Q.5. . Human body is delicate and prone to injury by various industrial hazards and use of PPE help in minimizing injury. What are the various classification of respiratory PPE. Explain any three types of respiratory protection system which are used petroleum industry. (4 + 6 = 10 Marks)

Q.6 In spite of a petroleum installation following sound design, engineering and management practices, the possibility of a major accident or disaster cannot be ruled out. What are the various objectives of emergency management plan? Explain various component of Disaster/ Emergency Management Plan which are followed in petroleum installation? (3+ 7 = 10 Marks)

Q.7. Employers must ensure that each employee has a basic knowledge of how to find information on an MSDS and how to properly make use of that information. What is MSDs? Explain any eight sections of MSDs . (2 + 8 = 10 Marks)

Part B2

Q.8. Describe importance of Color Coding and Safety Sign in industry. Explain different types of safety sign and color coding used in oil and gas industries. (10 Marks)

Or

Q.9. What are the difference between primary air pollutant and secondary air pollutants? What are the impact of suspended particulate matter and carbon monoxide on human being and plants. (4 + 6 = 10 Marks)

Section C (20 X 2 = 40 Marks)

Note : Section C is divided into two part i.e. Part C1 and Part C2. Part C1 i.e Q. No. 10 is compulsory however choice has been given in part C2 student are required to attempt any one question i.e Q.No. 11 or Q.No.12 from part C2

Part C1 (Compulsory)

Q.10 a) What are the different types of possible Hazards which are present in confined space?

(8 Marks)

Q.10. b) Explain various steps which you need to follow for Permit-Required Confined Space Entry Procedure. (12 Marks)

Part C2

Q.11. a) What are the various objectives of EIA ? Explain rapid EIA and Comprehensive EIA.

(2 + 4 = 6 Marks)

Q.11 b) Explain various steps and methodologies which you need to follow for taking environmental clearance for industrial project . (6 +8 = 14 Marks)

Or

Q.12. Industries are emitting lots of air pollutants in the environment which are causing harmful effects on human beings, plants and animals. Describe various methods which are used controlling air pollution (particulate matter and gaseous pollutants) in industries.

(20 Marks)

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End Semester Examination – April, 2017

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Subject: Safety Health & Environment Mgt

Code : ENVO 401

No. of page/s:

Semester –VIII

Max. Marks : 100

Duration : 3 Hrs

Section A : (4 x 5 = 20 Marks)

Note : Attempt all questions from section “A”. Each question carry equal marks.

Q.1. Choose the correct answer : (5 Marks)

i) Activated carbon is used in the process of

- a) Absorption b) Adsorption c) Combustion d) Condensation

ii) The world worst industrial Bhopal Gas Disaster occurred due to leakage of

- b) Hydrogen Sulphide b) Methyl Iso-cyanate c) Methane d) Chlorine

iii) The scientific study of the relationship between man and his working environment

- a) Ergonomics b) Tectonics c) Rheology d) Bathymetry

iv) Gravitational Settling chamber remove:

- a) Sulphur dioxide b) Nitrogen Oxide c) Particulate Matter d) Fog

v) Itai- Itai disease is caused by accumulation of

- a) Lead b) Cadmium c) Mercury d) Arsenic

Q.2. Fill in the blanks : (5 Marks)

i) ----- is the process in which amount of toxic substance goes on increasing along with food chain.

ii) ----- sources of pollution occur when effluent or toxic material is directly discharged into the water body.

iii) Minamata disease caused by -----.

iv) ----- procedures are designed to protect workers in confined spaces from outside hazards, such as gases or liquids being pumped accidentally into a confined space that could result in fatal injuries.

- v) The EIA process in India was made mandatory and was also given a legislative status through a notification issued in January -----.

Q.3. Write full form of following abbreviations: (5 Marks)

- i) IMO & SPCB -----
- ii) ALARP-----
- iii) IDLH-----
- iv) OISD-----
- v)RSI-----

Q.4. Define the followings : (5 Marks)

b) Adhoc Method (3 Marks)

b) Standby Person (2 Marks)

Section “B” (8 x 5 = 40 Marks)

Part B1

Note : This section is divided into two parts B1 and B2. All questions carry equal marks. Student are required to attempt all questions from Part B1 and however choice is given in part B2, student may attempt any one question from part B2 is that either Q.8 or Q.9

Q.5 What are the different categories/ level of emergencies. Explain various component of Disaster/ Emergency Management Plan. (10 Marks)

Q.6. It necessary to have an accurate up-to-date Material Safety Data Sheet (MSDs) from the manufacturer, distributor or importer and reviewed and updated if necessary for each hazardous chemical in the enterprise? What is MSDs? Describe all the sections of MSDS?

Q.7. Describe various classification of non- respiratory PPE . Explain different types of non-respiratory PPE which are used in Oil & Gas Industry. (8 Marks)

Part B2

Q.8. Describe importance of Color Coding and Safety Sign in industry. Explain different types of safety sign and color coding used in oil and gas industries. (10 Marks)

Or

Q.9. What is the importance of control equipment in air pollution control? Describe different types of control equipment which are used for controlling particulate matter.

Section C (20 X 2 = 40 Marks)

Note : Section C is divided into two part i.e. Part C1 and Part C2. Part C1 i.e Q. No. 10 is compulsory however choice has been given in part C2 student are required to attempt any one question i.e Q.No. 11 or Q.No.12 from part C2

Part C1 (Compulsory)

Q.10. When effluents or waste water is discharged into a water bodies i.e. river, lake and sea, number physical, chemical and biological characteristics of water change which causes loss of organism and deterioration of water quality. Describe Primary, Secondary and tertiary treatment of Effluent Treatment Plant with the help of well labelled diagram. (20 Marks)

Part C2

Q.11. a) Define EIA? EIA. Describe various methodologies which are used for conduction EIA. (2+ 8 = 10 Marks)

a) Describe in a systematic way how a new project is given environmental clearance from Ministry of Environment and Forest with flow chart. (10 Marks)

or

Q.12. a) What are various classes of confined space ? Explain each of them briefly. (5 Marks)

b) Explain various steps of Permit-Required Confined Space Entry Procedures which are required to protect the workers from different hazards in confined space. (15 Marks)