Roll No.



School of Engineering

Mid - Term Examinations - September 2024

Semester: 3rd **Date**: 07/11/2024

Course Name: Occupational Health and Safety **Max Marks**: 50

Program: B.Tech (Petroleum) **Weightage**: 25%

Instructions:

7a

7b

7

(i) Read all questions carefully and answer accordingly.

Explain chemical mutagens with examples.

Identify the international agreement established to address the

issue of ozone depletion and discuss its key objectives.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.			2Mx5Q=10M						
1	Mention the main source of methane emissions into the atmosphere.	2 Marks	L1	CO1					
2	Point out the importance of health & safety in the oil and gas industry.	2 Marks	L1	CO1					
3	Define how water vapor contributes to the greenhouse effect.	2 Marks	L1	CO1					
4 5	(a) (b) Provide a description for the above pictograms. Define societal risk and provide an example scenario.	2 Marks 2 Marks		CO2					
Part B									
Answer ALL Questions. Each question carries 10 marks.			4QX10M=40M						
6	Analyze how ocean acidification relates to global warming and discuss the ecological implications for marine ecosystems. Or	10 Marks	L2	CO1					

L2

L2

CO1

CO1

4 Marks

6 Marks

8	8a	Elaborate the key environmental concerns associated with the petroleum industry.	5 Marks	L2	CO1					
	8b	Define Bioassay and mention its four limitations.	5 Marks	L2	CO1					
$\mathbf{0r}$										
9	globa	tigate how scientists use satellite data to monitor changes in all temperatures and outline the key indicators of climate change wed through these technologies.	10 Marks	L2	CO1					
10	10a	Points out two basic differences between Fault tree analysis and event tree analysis.	2 Marks	L2	CO2					
	10b	Use an appropriate example to illustrate the cause consequence analysis (CCA).	3 Marks	L2	CO2					
	10c	Explain the fault tree analysis in details with proper examples along with the tree.	5 Marks	L2	CO2					
$\mathbf{0r}$										
11	Discu	iss in detail the different types of hazards.	10 Marks	L2	CO2					
12		e are various acts and regulations which govern the conmental policies.	10 Marks	L2	CO2					
Explain the following in details:										
	(ł	a) Oil mines regulations. b) The air act. c) The water act.								
Or										
13	inclu	emical plant stores and uses various hazardous chemicals, ding chlorine gas and benzene. The safety management team the Chemical Exposure Index (CEI) to prioritize risk reduction egies.	5+5 Marks	L2	CO2					
		a) Discuss how the CEI can be applied in evaluating the risk of chlorine and benzene releases, considering their different chemical properties (toxicity, reactivity, volatility). b) Identify and explain the limitations of using the CEI in risk assessments. In what situations might the CEI fail to provide an accurate picture of chemical exposure risks?								