Roll No: | | | | | | | | | | | |

PRESIDENCY UNIVERSITY

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Presidency University Act, 2013 of the Karnataka Act No. 41 of 2013 | Established under Section 2(f) of UGC Act, 1956
Approved by AICTE, New Delhi | Approved By BCI
Bengaluru

Mid Term Examinations - October 2026

Date: 07/10/2026 **Time:** 09:30 AM - 11:00 AM

Course Code: PET3102 **Course Name:** Occupational Health and Safety

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2	CO3
Marks	46	24	20

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	State **four observations** while a worker entering a petroleum storage tank.	2	CO1	BT1
2	Recognize five major objectives of Safety, Health & Environment (SHE).	2	CO1	BT1
3	Recognize the correct answer and fill in the blank. _____ framework in the United States primarily addresses process safety hazards associated with highly hazardous chemicals. **A)** Process Safety Management (PSM) **B)** Risk Management Program (RMP) **C)** Globally Harmonized System (GHS) **D)** Seveso III Directive	2	CO2	BT1
4	Outline Indirect exposure by which air pollution can affect animals.	2	CO1	BT1
5	Select the correct answer from the options given below The Gaussian plume model assumes that pollutant concentration follows a Gaussian distribution in _____ directions continuous from a point source. **A)** Crosswind and vertical directions **B)** Downwind and crosswind directions only **C)** Vertical direction only **D)** Downwind direction only	2	CO2	BT1

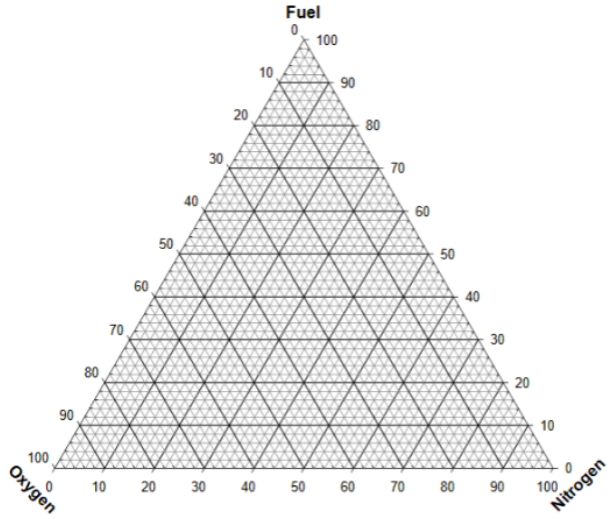
PARTB: Answer Any 1 Following Questions. 20 M

Q.N.	Questions	M	CO	BT
06.A	Explain how air pollution impacting on ecosystem after affect on soil and water bodies.	10	CO1	BT2
06.B	Describe explicitly how **Petroleum activities** impacting on soil pollution and ecosystem.	10	CO1	BT2
07.A	Explain five major Sources of Toxic Substances (should be related to the petroleum or petrochemical industry only) that may cause of toxicity and harming on human body.	10	CO1	BT2
07.B	Describe different types of toxicity with a minimum of three examples.	10	CO1	BT2

PARTC: Answer Any 1 Following Questions. 20 M

Q.N.	Questions	M	CO	BT

PTO (Please Turn Over)

08.A	A chemical storage unit at an onshore petroleum facility experiences a flange leak, resulting in a continuous toxic vapor release at a rate (Q) of 2.5 kg/s. The substance has an ERPG-2 concentration threshold of 0.02 kg/m³. From the given value as mentioned in the question determine the Chemical Exposure Index (CEI). Based on the calculated CEI value, interpret two engineering controls or safety barriers that should be implemented at the site to mitigate off-site exposure risk.	10	CO2	BT3
08.B	Illustrate four types of Fire and Explosion Models alongwith their key features, common causes, and consequences.	10	CO3	BT3
09.A	Illustrate why Quantitative Risk Assessment (QRA) Required in Industry.	10	CO2	BT3
09.B	Sketch a flamability diagram for Methylene (CH_2) at normal conditions while LFL and UFL are given as 3% and 39%, respectively. (Follow the appex points while drawing in graph) 	10	CO3	BT3