Name: **Enrolment No:**	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2022

Course: Clean Development Mechanism **Semester : III**
Program: M.Tech. – HSE **Time : 03 hrs.**
Course Code: HSFS 8025 **Max. Marks: 100**

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Explain briefly the major provisions of Kyoto Protocol treaty.	**4**	**CO1**
Q 2	What do you understand by Conference of Parties (CoP) and explain the objectives of CoP?	**4**	**CO1**
Q 3	Explain the difference between Annex I and Annex II Parties.	**4**	**CO1**
Q 4	Write short note on "Development of Project Idea Note (PIN)".	**4**	**CO2**
Q 5	Explain the difference between validation and verification.	**4**	**CO3**

SECTION B
(4Qx10M= 40 Marks)

Q 1	Explain in detail "The Flexible Mechanisms" option to fulfill a part of commitments to Annex I countries given by the Kyoto protocol.	**10**	**CO1**
Q 2	Explain in brief the following perspectives which can be taken for regarding sustainable development in the CDM: (i) From the host country's perspective (ii) From the individual project's perspective	**10**	**CO1**
Q 3	With help of diagram explain the CDM Project Cycle for project approval and CER issuance once a methodology has been approved.	**10**	**CO2**
Q 4	Explain in detail how a CDM project contributes to sustainable development comprising list of sustainable development indicators, a quantitative or qualitative measure for each indicator that can be used to score the project.	**10**	**CO3**

SECTION-C (2Qx20M=40 Marks)			
Q 1	A process industry is consuming the following energy per day 3000 kg of furnace oil for thermic fluid heater 5000 kg of coal and 3000 kg of rice husk for boiler 15,000 kWh of Purchased electricity from grid 10,000 kWh of self-generated electricity through DG sets Calorific values of fuels: Furnace oil: 10,000 kCal/kg, Coal: 5000 Kcal/kg Rice husk: 3000 Kcal/kg, HSD: 10,500 kCal/kg Specific fuel consumption of DG sets: 3.5 kWh/kg of HSD Calculate input energy consumption in terms of Metric Tonne of Oil Equivalent for the industry.	**20**	**CO2**
Q 2	List CDM methodologies applicable to "City-Based Mitigation Programmes" for various measures relevant to from below: **(Any two)** a) Urban transport b) Urban household & building energy generation and energy efficiency c) Urban waste management and wastewater	**20**	**CO3**