Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING
MID TERM EXAMINATION - NOV 2023

Semester : Semester I - 2022
Course Code : PET1002
Course Name : Sem I - PET1002 - Introduction To Oil and Gas Industry
Program : B. TECH

Date : 6-NOV-2023
Time : 9:30AM - 11:00AM
Max Marks : 50
Weightage : 25%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS **(5 X 1 = 5M)**

1. List some (at least four) examples of a renewable energy source.
(CO1) [Knowledge]
2. Classify the type of energy based on its usage and availability.
(CO1) [Knowledge]
3. Name some (at least two) key conventional energy sources.
(CO1) [Knowledge]
4. Highlight the primary advantage of renewable energy sources over non-renewable sources in terms of sustainability.
(CO1) [Knowledge]
5. Enlist some petroleum-based products.
(CO1) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS **(3 X 5 = 15M)**

6. Provide a comprehensive discussion on the process of formation of hydrocarbons during the catagenesis stage.
(CO2) [Comprehension]
7. Define the term “Permeability”, particularly in the context of oil mobilization. Also, provide the equation for the Darcy Law and meaning of various parameters used in the equation.
(CO2) [Comprehension]

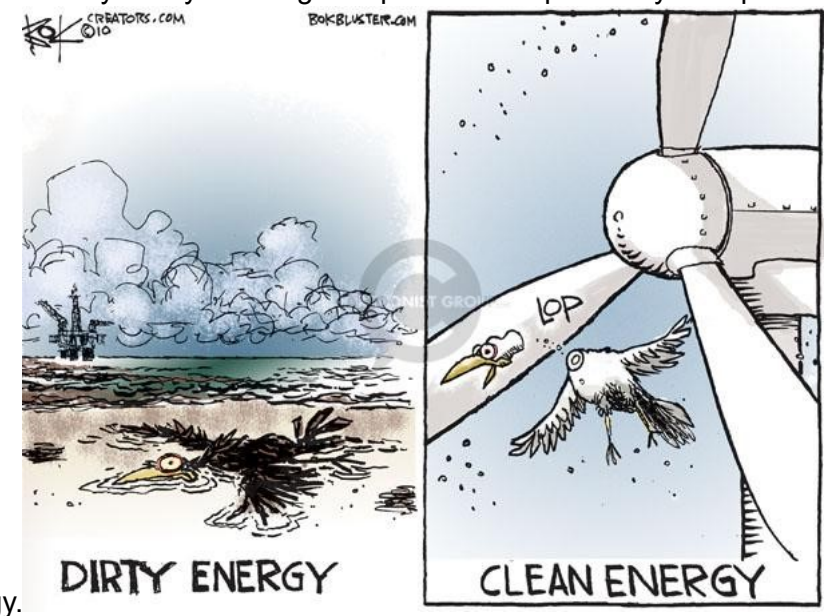
8. Permeability, an essential property within the realm of porous media physics, encompasses a spectrum of distinctive categories. Classify the permeability and its types.

(CO2) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS **(2 X 15 = 30M)**

9. Based on your understanding critically analyze the given picture and provide your opinion in detail about the clean and dirty energy.



(CO1) [Application]

10. Let's assume you are given a cuboid filled with the solid balls of dimension 100 cm in diameter. The dimensions of the cuboid are 3 meter in length, 3.28 ft in breadth, and 6.56 ft in height. Based on your understanding about the pore volume, matrix volume and bulk volume, try to obtain the porosity and matrix volume of the cuboid.

(CO1) [Application]