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**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING  
MID TERM EXAMINATION - APR 2023**

**Semester :** Semester II -2022

**Course Code :** PET1001

**Course Name :** Sem II - PET1001 - Petroleum Geology

**Program :** PET

**Date :** 18-APR-2023

**Time :** 9:30AM - 11AM

**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 2 = 10M)**

1. List out at least two branches of General Geology.  
(CO1) [Knowledge]
2. List any four of the major tectonic plates.  
(CO1) [Knowledge]
3. Fill in the Blanks: At a \_\_\_\_\_ boundary, two plates move apart, or separate. At a \_\_\_\_\_ boundary, two plates move toward each other.  
(CO1) [Knowledge]
4. Sequentially list down the necessary elements of any Petroleum System.  
(CO2) [Knowledge]
5. Expand the following: LPG, LNG, CNG, and PNG.  
(CO2) [Knowledge]

**PART B**

**ANSWER ALL THE QUESTIONS**

**(2 X 10 = 20M)**

6. (a) The Earth is a member of the planetary system of the sun. The principal theories which have been advanced to explain the origin of the earth can be divided into two groups. Discuss the basic difference between the theories proposed by the above-mentioned two groups.  
(b) List any two of the existing theories/hypothesis that explains the origin of the Earth and explain them.  
(CO1) [Comprehension]

7. Assume that you have joined an Oil and Gas exploration company as an Assistant Driller recently and you got your posting in a drilling rig. You have been informed that a reservoir is expected at about 4500 m depth. Suddenly, the Wellsite Geologist asked you to stop the drilling around 300 m before the target depth after examining the drill cuttings and also convinced the management that the oil and gas can't be found below the present depth. As per the drill cuttings, the cuttings of shale, sandstone, mudstone, dolerite, gneiss, and graphite from the same well are received. (a) Identify the rock cuttings that helped the Wellsite Geologist to stop drilling. (b) Explain the reason(s) cited for confirming that oil and gas can't exist in deeper depth.

(CO2) [Comprehension]

### **PART C**

**ANSWER THE FOLLOWING QUESTION**

**(1 X 20 = 20M)**

8. The hydrocarbon potential of organic carbon depends on the thermal history of the rocks containing the kerogen. Both temperature and time are important to determine the maturity of Organic Matter (OM). Name all the methods used for measuring the maturity of OM and explain them.

(CO2) [Application]