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| Name: |  |
| Enrolment No: | |
| SAP ID: | |
| UNIVERSITY OF PETROLEUM AND ENERGY STUDIES <u>Online End Semester Examination, December, 2020</u> | |
| Course: Petroleum Geology Program: B.Tech. GIE Course Code: PEGS 3011 | Semester: V Time: 3 hrs. Max. Marks: 100 |

| SECTION A Each Question carries 5 Marks | | |
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| Q.1 | Give the Full form of the following: FDP, EOR, IPR, OALP, NDR | CO1 |
| Q.2 | Name the general (5) phases of oil and gas field life cycles before the abandonment phase is reached. | CO1 |
| Q.3 | What are the five most important geologic factors that are required to be present for HC deposit to form? | CO2 |
| Q.4 | Name the natural forces that are responsible for hydrocarbon migration. | CO2 |
| Q.5 | Name five components of Petroleum System. | CO3 |
| Q.6 | Should reservoir rocks be porous and permeable, Give reason for your answer. | CO3 |
| SECTION B 1. Each question carries 10 marks 2. Instruction: Write short / brief notes | | |
| Q.7 | Explain the structural trapping mechanism for hydrocarbons. Illustrate your answer with neat figure. | CO2 |
| Q.8 | (a) Outline the characteristics of Benzene and paraffin. (b) Evaluate the importance of API gravity in oil and gas industry. | CO3 |
| Q.9 | Classify the Indian sedimentary basins with appropriate examples. | CO1 |

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| Q.10 | Compare primary and secondary migration process of hydrocarbons. Illustrate your answer with neat figure. | CO2 |
| Q.11 | <p>The process of Transformation from organic matter into hydrocarbon is divided into three stages ----- Describe these stages of maturation from primary organic material to kerogen to oil/ gas.</p> <p style="text-align: center;">OR,</p> <p>(a) What is the difference between kerogen and bitumen? (b) Describe the characteristics of various types of kerogen</p> | CO2 |
| | <p>Section C</p> <p>1. Each Question carries 20 Marks. 2. Instruction: Write long answer.</p> | |
| Q.12 | <p>(a) Explain the term sedimentary basin. (b) Describe the mechanism of formation of sedimentary basin due to plate tectonic theory. (c) Compare the process of formation of Foreland, Fore arc and Back arc basin. Illustrate your answer with suitable examples and neat figure.</p> <p style="text-align: center;">OR,</p> <p>(a) Describe the geo synclinal theory for the formation of sedimentary basin. (b) Explain the types of divergent sedimentary basin. Illustrate your answer with suitable example and neat figure.</p> | CO4 |