

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019

Course Code: AE472

Course Name: PETROLEUM ENGINEERING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

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|---|----|---|------|
| 1 | a) | Explain the various Petroleum exploration techniques. | (10) |
| | b) | Differentiate clastic and non clastic reservoir rocks. | (5) |
| 2 | a) | Explain the phase behaviour of hydrocarbon systems | (8) |
| | b) | List out and define the low – boiling point petroleum products | (7) |
| 3 | a) | Discuss the flow of fluids through porous media in petroleum formation process. | (8) |
| | b) | Explain the properties of reservoir fluids. | (7) |

PART B

Answer any two full questions, each carries 15 marks.

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|---|----|--|------|
| 4 | a) | Explain various metering techniques in Petroleum industry. | (10) |
| | b) | What is Formation damage? | (5) |
| 5 | a) | Explain production system analysis and optimization in petroleum technology | (8) |
| | b) | What is the purpose of well completion techniques? Explain any two techniques used for well completion | (7) |
| 6 | a) | What is the use of pressure vessel? List out different types of pressure vessels | (5) |
| | b) | Explain two types of petroleum production testing with neat figure | (10) |

PART C

Answer any two full questions, each carries 20 marks.

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| 7 | a) | Explain Acoustic logging tool with diagrams and how analysis of the receiver waveforms is interpreted; illustrate using a typical receiver output waveforms | (10) |
| | b) | List any five important properties to be considered for lubricating oil blending stocks | (5) |
| | c) | How will you evaluate cement bond logs using the Ultra Sonic Imager Tool (USIT), | (5) |
| 8 | a) | Why production logging is needed. Explain the operation of any one production logging tool with necessary diagrams | (10) |
| | b) | Explain shale gas extraction with help of a diagram. | (10) |

- 9 a) Explain the principle of NMR (nuclear magnetic resonance) logging with diagram (5)
- b) Explain with figures any two casing inspection tools (10)
- c) List any five major factors to be considered in setting up a refinery. (5)
