

Reg No.: _____

Name: _____

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019**

Course Code: MR364

Course Name: ENERGY ENGINEERING AND MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

- 1 Write short note on solar chart?
- 2 Explain about storage and handling of biomass?
- 3 Explain why structural engineering is so important for wind turbine?
- 4 Enumerate various methods to conserve energy in system?
- 5 Differentiate about Chemical properties and Biological properties of waste?
- 6 Write the various environmental impacts due to incineration?
- 7 What is the difference between Trademarks and Patent specification?
- 8 Write shortnote on dimensions of technology transfer?

PART B

Answer any three questions, each carries 10 marks.

- 9 a) Explain the working principle of choppers, inverters and batteries for output of solar panels? 5
- b) Write a short note on pyranometers? 5
- 10 a) Explain the various properties of biomass? 5
- b) Write short note on Thermo chemical conversion of lignocelluloses biomass? 5
- 11 a) Mention the instruments used to measure turbulent wind flow with neat sketch? 4
- b) With neat sketch explain the grid combination of diesel generator in wind turbine? 6
Explain the advantages of grid combination wind turbines?
- 12 a) Write short note on energy audit? 3
- b) What is the role of energy engineer in a manufacturing organization? 7
- 13 a) Write short note about detailed M and T process? 4
- b) If you are an energy engineer of a steam power plant. What are the measures implemented to conserve the steam energy? 6

PART C

Answer any two questions, each carries 15 marks.

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| 14 | a) | Write short note on recycling of municipal waste? | 7 |
| | b) | Enumerate various methods to minimize the waste? | 8 |
| 15 | a) | Write short note on Trade secrets? | 7 |
| | b) | India is a member of WTO". Explain the role of WTO? | 8 |
| 16 | a) | Demystify about design registration? How design registration is different from patent? | 15 |
| 17 | a) | Elucidate about Incineration? And mention its advantages? | 8 |
| | b) | Explain about anyone incinerators used in medical incineration process? | 7 |