

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

EIGHTH SEMESTER B.TECH DEGREE EXAMINATION(S), OCTOBER 2019

**Course Code: EE482****Course Name: ENERGY MANAGEMENT AND AUDITING**

Max. Marks: 100

Duration: 3 Hours

**PART A***Answer all questions, each carries 5 marks.*

Marks

- |   |  |     |
|---|--|-----|
| 1 | How energy management planning is carried out? Explain.            | (5) |
| 2 | Explain briefly about various lighting controls available.         | (5) |
| 3 | Explain typical boiler system with neat schematic diagram.         | (5) |
| 4 | Explain the working of typical HVAC system.                        | (5) |
| 5 | What is cogeneration? Explain its advantages.                      | (5) |
| 6 | Explain computer aided energy management. What are its advantages? | (5) |
| 7 | What are the disadvantages of pay back method?                     | (5) |
| 8 | Explain life cycle costing. What are its Advantages?               | (5) |

**PART B***Answer any two full questions, each carries 10 marks.*

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|---|---|-----|
| 9 | a) Discuss the General principles of Energy management. | (5) |
|   | b) How energy management planning can be done? Explain. | (5) |

- 10 a) Explain peak demand control methods used for energy management. (5)  
b) Explain the energy management opportunities in electric heating. (5)
- 11 Explain the energy saving opportunities in lighting system. (10)

### PART C

*Answer any two full questions, each carries 10 marks.*

- 12 Explain the energy efficiency opportunities in boiler system. (10)
- 13 a) Explain the waste heat recovery in a furnace. (5)  
b) Explain any two energy saving opportunities in HVAC system. (5)
- 14 a) Explain the classification and advantages of waste heat recovery system. (5)  
b) Write in brief about the energy saving opportunities in waste heat recovery system. (5)

### PART D

*Answer any two full questions, each carries 10 marks.*

- 15 a) Explain different types of energy audit. (5)  
b) Explain the instruments used for energy audit. (5)
- 16 Write short note on (i) Average rate of return method (5)  
(ii) Present value method (5)
- 17 a) Explain any three schemes of cogeneration. (5)  
b) Calculate the simple pay back period for a boiler that cost Rs.75 lakhs to purchase and is expected to save Rs.30 lakhs/ year. (5)

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