

No. of Printed Pages : 4

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Roll No. ....

**4th Sem / Instrumentation & Control,  
Power Station Engg., Elect & Eltx. Engg.**

**Subject:- Principles of Energy Management / Energy  
Sources & Management of Electrical Energy**

Time : 3Hrs.

M.M. : 100

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The Disadvantages of renewable source of energy are

- a) Intermittency
- b) Lack of dependability
- c) Availability in low energy densities
- d) All of the above

Q.2 Energy is released from fossil fuels when they are \_\_\_\_

- a) Pumped                      b) Burned
- c) Cooled                      d) Pressurized

Q.3 The solar cells are made of

- a) Aluminium              b) Germanium
- c) Silicon                      d) Cadmium

Q.4 Which of the following power plants is the least reliable?

- a) Wind                      b) Tidal
- c) Geothermal              d) Solar

Q.5 Which of the following is a non-renewable resource?

- a) Coal                      b) Forests
- c) Water                      d) Wildlife

Q.6 CFC stands for

- a) Chloro fluoro carbons
- b) Carbon fluorine carbon
- c) Compact fluoro carbons
- d) Concentric fluoro carbons

Q.7 The main energy management strategies:

- a) Energy development    b) Energy scheduling
- c) Energy Conservation    d) Energy efficiency

Q.8 The objective of energy management includes

- a) Minimising energy costs
- b) Minimising Waste
- c) Minimising environmental degradation
- d) All of above

Q.9 Which is non-conventional source of energy ?

- a) Fossil fuels
- b) Radio active substances
- c) Geothermal, ocean tides and waves
- d) Water

Q.10 What is ESCO?

- a) Energy Saving Company
- b) Energy Sourcing Company
- c) Energy Service Company
- d) Energy section of company

### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 What is tariff?
- Q.12 Define Battery.
- Q.13 MPPT stands for\_\_\_\_\_
- Q.14 What do you mean by energy audit?
- Q.15 Define energy Conservation.
- Q.16 Define energy.
- Q.17 What is load factor?
- Q.18 How many steps we follow in energy audit methodology\_\_\_\_\_
- Q.19 Write any one name of energy audit Instrument.
- Q.20 A solar cell converts\_\_\_\_\_energy into\_\_\_\_\_

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain method of obtaining energy from solar.
- Q.22 What is the need of energy conservation.
- Q.23 Write the advantages of energy storage.
- Q.24 Differentiate between renewable and non renewable energy source.
- Q.25 How battery is used to store electrical energy.
- Q.26 Write a short note on fuel cells.

- Q.27 Explain the need of energy audit.
- Q.28 Name the steps involved in 'Energy Audit'.
- Q.29 What are the advantages of energy source.
- Q.30 Write a short note on present energy scenario in India in Industrial sector.
- Q.31 How we can improve energy conservation by power factor.
- Q.32 Write the principle of wind-energy conservation.
- Q.33 Explain need to energy storage?
- Q.34 List the various Instruments uses for energy audit.
- Q.35 What is energy? Discuss the different characteristics of energy?

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Write a short note on following.
  - a) MHD
  - b) MPPT
- Q.37 What is tariff ? And also explain type of tariff structure for electricity.
- Q.38 Explain the principle of wind energy conservation.