

M. Tech. Electrical Power System (CBCS Pattern) Semester-I
PEPS11 - Energy Management & Auditing

P. Pages : 1

Time : Three Hours



GUG/W/24/10969

Max. Marks : 70

- Notes :
1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Use of slide rule, Logarithmic tables is permitted.
 5. Non programmable calculator is permitted.
 6. Answer **any five** questions.

1. a) If air Consists of 77% by weight of nitrogen & 23% by weight of oxygen. Calculate: 7
 - i) The mean molecular weight of air.
 - ii) The mole fraction of oxygen.
 - iii) The concentration of oxygen in mole / m³ & kg / m³, if the total pressure is 1.5 atmosphere's & temperature is 25°C.
- b) Explain Energy Conservation & its importance. 7
2. a) How many stages are there in energy audit? Explain them in detail with block diagram. 7
- b) Explain 'maximum energy efficiency principle' and 'maximum cost effectiveness' in energy used. 7
3. a) Explain the spill which are required to be exhibited during energy management. 7
- b) Explain flow control strategies & Energy Conservation opportunities in Fans & Pumps. 7
4. a) How can energy audit lead to energy conservation? 7
- b) Write short notes on energy performance assessment of diesel generator set. 7
5. a) Explain in details, "Implementation of Motor Management Program". 7
- b) With a neat diagram explain the standalone wind solar Photo-Voltaic System. 7
6. a) Explain key features of ISI 12615 & IEEMA standards. 7
- b) Explain fixed & variable concepts of tariff systems. 7
7. a) Draw and explain in energy flow diagram in a plant. 7
- b) Discuss the tariff options for DSM. Which tariffs promote DSM. 7
8. a) State & Explain various steps in implementation of energy Management in an organization. 7
- b) Explain fixed & variable concepts of tariff systems. 7
