

**MASTER OF ARCHITECTURE (SUSTAINABLE ARCHITECTURE)
(CBCS - 2018 COURSE) M. Arch. (S.A.) Semester-I : WINTER : 2021
SUBJECT: ENERGY MANAGEMENT & AUDIT**

Day :Friday

Time : 10:00 AM-12:30 PM

Date :31-12-2021

W-19770-2021

Max.Marks 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Answer to both the sections should be written in **SEPARATE** answer book.
- 4) Assume suitable data and draw figures if necessary.

SECTION - I

- Q.1** Write short notes on (**ANY TWO**) **(10)**
- a) Classify and explain the types of the energy available on the earth.
 - b) List any four important factors involved in deciding final cost of purchased electricity.
 - c) What is the significance of an energy policy?
- Q.2** Explain in brief / Describe the following terms in detail (**ANY TWO**) **(10)**
- a) What are the characteristics of Direct Current and Alternating Current?
 - b) Define 'Latent Heat Of Fusion' and 'Latent Heat Of Vaporization'.
 - c) Differentiate between Energy Conservation and Energy Efficiency with suitable examples.
- Q.3** Answer the following (**ANY ONE**) **(10)**
- a) What is heat transfer? Briefly explain three primary modes of heat transfer.
 - b) Distinguish between 'Preliminary Energy Audit' and 'Detailed Energy Audit'.

SECTION - II

- Q.4** Write short notes on (**ANY TWO**) **(10)**
- a) List down the items to be represented for a preparation of a process flow chart.
 - b) What do you understand about ESCOs?
 - c) Define briefly PERT.
- Q.5** Explain in brief / Describe the following terms in detail (**ANY TWO**) **(10)**
- a) Why Sankey diagram is useful in energy balance calculations.
 - b) Explain 'Simple Payback Period' technique with example.
 - c) Calculate the present value of tax cash flow from a Rs. 10,000 investment towards 5 HP energy efficient motor with 30% declining balance depreciation rate, 50% tax rate and 10% interest rate.
- Q.6** Answer the following (**ANY ONE**) **(10)**
- a) Explain in detail 'What is performance contracting'?
 - b) Explain and draw a typical Gantt chart.

* * * * *