MASTER OF ARCHITECTURE (SUSTAINABLE ARCHITECTURE) (CBCS - 2018 COURSE) M. Arch. (S.A.) Semester-II :WINTER - 2021

SUBJECT: ENERGY SYSTEMS & UTILITIES (UE)

Day Tuesday
Date 21-12-2021

Time:- 10:00 AM-12:30 PM
Max. Marks: 60

W-19790-2021

N.B.:

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

SECTION-I

Q.1 Write short notes on **ANY TWO** of the following: **(10)**

a) Storage of Fuel Oil
b) Types of Insulation Materials
c) Boiler Classification

Q.2 Explain in brief (**ANY TWO**): **(10)**

a) Heat pump as WHR device.
b) Energy saving opportunities in steam systems.
c) Performance evaluation of boilers.

Q.3 Answer **ANY ONE** of the following **(10)**

a) Stoichiometric combustion of fuel oil.
b) Explain in details: i) Heat pipe ii) Heat wheels

SECTION-II

Q.4 Write short notes on **ANY TWO** of the following: **(10)**

a) Motor Characteristics
b) Heat Transfer Loops in Refrigeration System.
c) Types of Cooling Towers

Q.5 Explain in brief (**ANY TWO**): **(10)**

a) What is maximum demand control?
b) What are fan-less cooling towers?
c) What are ECBC guidelines for HVAC?

Q.6 Answer **ANY ONE** of the following **(10)**

a) What are the energy saving opportunities in fan systems?
b) What are the flow control strategies in pumps?

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