

**M. Arch. Sem-I (Sustainable Architecture) (2014 Course) (CBCS) :
SUMMER - 2019**

SUBJECT : ENERGY CONSERVATION – I (Thermal Environment)

Day : Wednesday
Date : 08/05/2019

Time : 10.00 A.M. TO 12.00 NOON
Max. Marks : 60

S-2019-3737

N.B.:

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

SECTION – I

- Q.1** Write short notes on **ANY TWO** of the following: [10]
- a) Attitude and Azimuth angle
 - b) Wind Rose
 - c) Modes of heat transfer
- Q.2** Explain in brief **ANY TWO**: [10]
- a) Radial ventilation corridor.
 - b) Earth tube cooling.
 - c) External shades.
- Q.3** Answer **ANY ONE** of the following: [10]
- a) How “building form” does affects heat gain in building?
 - b) Explain with a case study of architectural precedents carried out on various scale (any one climate).

SECTION – II

- Q.4** Write short notes on **ANY TWO** of the following: [10]
- a) Green Rated buildings
 - b) Net positive buildings
 - c) Carbon neutral buildings
- Q.5** Explain in brief **ANY TWO**: [10]
- a) Make strategy bundle for neighborhood in hot climate.
 - b) Make strategy bundle for buildings and rooms in hot climate.
 - c) Combine bundle for ventilation.
- Q.6** Answer **ANY ONE** of the following: [10]
- a) Discuss strategies in cold climate for maximizing sun penetration and factors affecting the design of solar envelope.
 - b) Explain how presence and modification of vegetation and water bodies can affect micro-climate.

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