

M. ARCH. SEM-I (SUSTAINABLE ARCHITECTURE)

(2014 COURSE) (CBCS) : WINTER - 2017

SUBJECT: ENERGY CONSERVATION – I (THERMAL)

Day : **Friday** Time : **10.00 A.M. TO 12.00**
Date : **08/12/2017** Max. Marks: **60**
W-2017-3260

N.B.

- 1) Attempt any **THREE** questions from each section.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answers to both the sections should be written in **SEPARATE** answer book.
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SECTION – I

- Q.1** Define the following: Azimuth angle, Solar Envelope, Sunspace, Transmittance, Thermal mass. (10)
- Q.2** Describe the process of Locating Outdoor rooms in relation to sun and wind for different climate zones. (10)
- Q.3** Write short note on Permeable Buildings and Roof ponds. (10)
- Q.4** Explain the procedure for Balance Point temperature for a hypothetical building. (10)
- Q.5** Discuss how form and envelope are influenced by climatic zones in Solar Passive Design. (10)

SECTION – II

- Q.6** Define the following: Altitude angle, Conductance, Sundial, Thermal comfort, Wind rose. (10)
- Q.7** Describe the procedure for sizing of Evaporative cooling tower in hot and dry climate. (10)
- Q.8** Vernacular settlements were climate responsive. Discuss this statement with appropriate examples from hot and dry climate (10)
- Q.9** Discuss the strategy of earth sheltering and associated problems of light and ventilation. (10)
- Q.10** Explain factors affecting heat gain in building and draw various sections of walls and roofs to reduce the same. (10)

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