

**M. ARCH. SEM-I (SUSTAINABLE ARCHITECTURE) (2014  
COURSE) (CBCS) : SUMMER - 2018  
SUBJECT : ENERGY CONSERVATION – I (THERMAL)**

Day : **Saturday**  
Date : **05/05/2018**

**S-2018-3330**

Time : **02.00 PM To 04.00 PM**  
Max. Marks : 60

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**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 books.
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**SECTION – I**

- Q.1** Define the following terms: [10]  
a) Thermal Comfort                      c) Sol-air temperature                      e) Latent heat  
b) Radiant cooling                          d) Sensible heat
- Q.2** Write short notes on: [10]  
a) Natural ventilation and parameters influencing the same  
b) Process of formulating Radiation Square
- Q.3** Write short notes on: [10]  
a) Evaporative Cooling  
b) Balanced Urban Pattern
- Q.4** Write short notes on: [10]  
a) Breathing Envelope  
b) Air Movement Principles
- Q.5** Discuss with examples how Form and Envelope affects heat gain in buildings. [10]

**SECTION – II**

- Q.6** Define the following terms: [10]  
a) Sun Dial                                  c) Solar envelope                          e) U-value  
b) Sun space                                d) Buffer zone
- Q.7** Write short notes on: [10]  
a) Topographic Microclimates  
b) Deep sun in thick buildings
- Q.8** Vernacular Buildings are climate Responsive. Explain this statement with various examples from hot and dry climate. [10]
- Q.9** Explain the procedure of Balance Point temperature. [10]
- Q.10** Write short notes on: [10]  
a) Radial Ventilation Corridor  
b) Ways to reduce Urban Heat Island Effect

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