No. of Printed Pages : 4

BAR-029

00433

BACHELOR OF ARCHITECTURE

Term-End Examination

December, 2010

BAR-029 : ARCHITECTURAL SCIENCES AND SERVICES - I (CLIMATOLOGY)

Time : 3 hours *Maximum Marks : 70*

Note : *(1) Attempt **four** questions in all. **Section-A** is **compulsory**.*

*(2) Attempt **any three** questions from **Section-B**.*

SECTION - A

(Compulsory Question)

1. Discuss briefly with notes and sketches any five of the following : **5x5=25**

   (a) Day Light Factor.

   (b) U value.

   (c) Sun path diagrams.

   (d) Global warming.

   (e) Sol Air Temperature.

   (f) Dry bulb and Wet bulb temperatures.

   (g) Thrombe walls.

   (h) Mahoney tables.

SECTION - B

Attempt any **THREE** questions from this section :

2. (a) Discuss briefly the climatic zones of india.

   (b) Discuss the criteria for the classification of these climatic zones.

   (c) Discuss built form and material applications for any two climatic zones. **3x5=15**

3. It is required to shade an opening 1.5 m (Height) x 1.0 m (width) by a Horizontal shading device. The wall is facing North west at a Location 15°N. Full shading is required to be obtained at 2 pm on may 16. Design the shading device Solar Angles for 16th may, 2 pm for this orientation are as follows : **15**

   Vertical Angle 70°

   Horizontal Angle 45°

4. Discuss briefly the concept of "GREEN ARCHITECTURE". What would be your Design concerns and construction materials and techniques to evolve a Green Building ? **15**

5. Discuss briefly how Design and planning of a Beach House at a coastal area would be influenced by climatic factors of the region for achieving indoor comfort conditions. Discuss your Design strategies with relevant sketches. **15**

6. REFER FIG I. **15**

The figure shows a residential building situated at Delhi (composite climate) An additional room is to be constructed as proposed in the figure.

Discuss briefly with relevant sketches, your critera for the Design and Location of window openings for cross ventilation. (Figure - 1 is placed at page No. 4)

7. Discuss briefly the passive strategies you would adopt while designing a building in cold climate (SHIMLA) Elaborate with relevant sketches. **15**

Fig 1
N
17.5 M
20 M wide road
kitchen
dining
bed room
toilet
living
verandah
PROPOSED
BED ROOM
3.5M
5.0M
3.0 M
6.0M
HIGH
BLOCK