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43(3) ENVS 3·8

2015

**ENVIRONMENTAL SCIENCE
(CLIMATOLOGY)**

Paper : ARC-3·8

Full Marks : 100

Pass Marks : 40

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Define the following : (2 marks each)
2×10=20
- (a) Climatology
 - (b) Micro & Macro climate
 - (c) Relative humidity
 - (d) Precipitation
 - (e) Ground character
 - (f) Solar radiation
 - (g) Bio-climatic chart

Contd.

- (h) Fenestration
- (i) Egg crate devices
- (j) Flywire nets

2. Write short notes on **any eight** of the following : (5 marks each) 5×8=40

- (a) Solar Azimuth Angle
- (b) Sun Path diagram
- (c) Shading devices
- (d) Design principles for hot and human climate
- (e) Thermal comfort
- (f) Daylight factor
- (g) Kata thermometer
- (h) Globe thermometer
- (i) Earth's thermal balance.

3. Explain the effect of courtyards and verandahs in building design with respect to hot climate, cold climate and humid climate. 10

4. What are the major climate zones in India and what are their classifications ? 10

5. (a) What do you mean by micro-climate ? Explain the effect of landscape elements on micro-climate. 20

Or

(b) How is earth's thermal balance obtained ? What are the *three* processes by which earth's surface releases heat ? Explain through conceptual sketches. 20