

PARUL UNIVERSITY
FACULTY OF ARCHITECTURE
B.Arch./ B.ID, Winter 2017-18 Examination

Semester: III**Subject Code: 01101205****Subject Name: Architecture and Environment-III****Date: 07/12/2017****Time: 10:00am to 12:00pm****Total Marks: 50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever required.
4. Draw suitable sketches wherever required.

- Q.1** Explain Day light and its principles. **(10)**
Q.2 Answer briefly (**Attempt any 5**) **(20)**

A Define the following: (**Any Four**)

- a. Fenestration
- b. Latitude
- c. Comfort zone
- d. Transmittance
- e. Micro Climate

B Explain the following with necessary sketches.

- a. Varytherm Wall
- b. Wind tower

C Explain in detail.

- 1) What is supplementary artificial lighting and how is PSALI important for the economic benefits?
- 2) Explain the concept of Mahoney table and its relation with architecture.

D Explain with necessary sketches.

- 1) Stereographic Sun-path diagram
- 2) Psychometric Chart

E Differentiate the following with necessary sketches.

- 1) Internally Reflected Light & Externally Reflected Light
- 2) Design guidelines for 'hot & Dry' and 'Cold & Humid'.

F Answer in brief.

What is Sun Shading Devices? Enlist advantage & disadvantage of Sun Shading Devices.

- Q.3** Write a short note on the following (**Attempt Any 5**) **(10)**

- a. Vertical Shadow Angle
- b. Wet bulb temperature
- c. Earth Air Tunnel
- d. Munsell Color System
- e. Stevenson's Screen
- f. Humidity & Precipitation

- Q.4** Explain the following: (**Any Two**) **(10)**

- 1) Explain Passive Heating techniques with sketches.
- 2) Enlist design guidelines with appropriate sketches for 'Moderate' and 'Composite' climate.
- 3) Describe the elements of climate and explain how each one is measured. Also specify the unit of measurements.