

**PARUL UNIVERSITY**  
**FACULTY OF ARCHITECTURE**  
**B.Arch./B.ID., Winter 2018 - 19 Examination**

**Semester: 3****Subject Code: 01101205****Subject Name: Architecture and Environment - III****Date: 12/12/2018****Time: 10:00 am to 12:00 pm****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 Passive Cooling techniques with sketches. **(10)**
- Q.2** Answer briefly (Attempt any 5) **(20)**
- a. Define:
- i. Longitude
  - ii. Ecology
  - iii. Insulation
  - iv. Radiation
- b. Explain with necessary sketches.
- i. Trombe wall
  - ii. Absolute Humidity & Relative Humidity.
- c. Explain in detail.
- i. Disadvantage of Sun Shading Device.
  - ii. Elements of climate and specify its means and unit of measurement.
- d. Explain with necessary sketches.
- i. Stereographic Sun-path diagram
  - ii. Psychometric Chart
- e. Differentiate with necessary sketches.
- i. Natural light & Artificial light
  - ii. Internally Reflected Light & Externally Reflected Light
- f. Explain ventilations and its design strategies.
- Q.3** Write a short note on the following (Attempt Any 5) **(10)**
- a. Horizontal Shadow Angle
  - b. Munsell Color System
  - c. Vertical Shading device
  - d. Daylight Factor
  - e. Humidity measurements & Temperature data
  - f. Transmission of Light
- Q.4** Explain the Following (Any Two) **(10)**
- a. What is total comfort? Explain body heat exchange process, and subjective variables for body heat exchange.
  - b. Explain Day light and its principles.
  - c. Explain with suitable sketches and examples - 'Warm & Humid' climate.