

EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2012**CE 04 804 E - FUNCTIONAL DESIGN OF BUILDINGS
(2004 Admission)****Time: Three Hours****Maximum : 100 Marks***Answer all the questions*

1. a) Discuss about the acoustical defects found in buildings due to improper design.
- b) What are the principles of day lighting?
- c) Discuss about lux meter.
- d) Explain the factors determining thermal comfort.
- e) What is a climatic graph? Describe its use.
- f) Explain temperature inversion.
- g) What are ET nomograms?
- h) What is low energy cooling?

 $(8 \times 5 = 40)$

2. a) Explain the design criteria for an auditorium

OR

- b) Explain the behavior of sound in free field and enclosures. What are the methods adopted for reverberation control?

3. a) Explain the design of artificial lighting and the illumination requirements of various buildings.

OR

- b) Explain the concepts and process of lighting using windows and skylights.

4. a) Explain wind data, air pressure and humidity measurements.

OR

- b) Explain Solar chart and its use. What is apparent movement of the sun and its effect on day lighting?

5. a) Explain passive solar building design. What are shading devices?

OR

- b) Explain the process of thermal insulation in buildings. What are the materials and its thermo physical properties suitable for the purpose?

 $(4 \times 15 = 60)$