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TED (10) – 3029 Reg. No. .....

(REVISION — 2010) Signature .....

FOURTH SEMESTER DIPLOMA EXAMINATION IN
ARCHITECTURE — MARCH, 2015

CLIMATOLOGY

[*Time* : 3 hours

(Maximum marks : 100)

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. What is meant by doldrums ?
2. What is meant by True air temperature ?
3. What is meant by Air-to-air resistance ?
4. What is physiological cooling ?
5. What is cross ventilation ? (5×2=10)

PART—B

(Maximum marks : 30)

II Answer *any five* of the following questions. Each question carries 6 marks.

1. Explain polar winds.
2. What is Temperature Inversion ?
3. Explain the process of heat exchange of buildings to the surrounding environment.
4. Define :
   (a) Time-lag (b) Decrement factor
5. What are the objectives of thermal controls ?
6. Explain working of domestic refrigerator.
7. An enclosed, compactly planned and essentially inward looking building is most suitable in hot-dry climate. Elaborate it. (5×6=30)

PART—C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT—I

III (a) Enumerate elements of climate. Also write how these are measured. 9

(b) List out the factors that may cause local deviation from regional climate. 6

OR

Marks

IV (a) Explain features of Warm-Humid climate. 9

(b) The earth-sun relationship affect the amount of solar radiation received at a particular point on earth's surface. Explain. 6

UNIT—II

V (a) What is meant by Sol-air-temperature ? Explain. How is it calculated ? 9

(b) Define specific heat. 3

(c) Define Thermal capacity. 3

OR

VI (a) Explain the process of thermal balance of human body ? 9

(b) What is meant by Balancing in time ? 6

UNIT—III

VII (a) Explain wind pattern around building. 9

(b) What is meant by stack effect ? 6

OR

VIII (a) What are the methods to reduce solar heat gain through windows ? Explain 12

(b) What is meant by Dehumidification ? Explain. 3

UNIT—IV

IX Enumerate the features of traditional shelter in warm-humid climate. 15

OR

X (a) Explain how openings are oriented in Composite climate. 5

(b) List out the features of form of shelter in Composite climate. 5

(c) Write on roof and wall construction of shelter in Composite climate. 5
