

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – OCTOBER/NOVEMBER-2018.

CLIMATOLOGY

(Maximum Marks : 100)

Time : 3 hours

PART-A
(Maximum marks: 10)

Marks

I. Answer **all** questions in one or two sentences. Each question carries 2 marks.

1. What are Polar winds?
2. What is meant by precipitation?
3. What is comfort zone?
4. Define latent heat.
5. What is an exhaust system of ventilation?

(5X2=10)

PART - B
(Maximum Marks : 30)

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

1. Explain AH, SH and RH.
2. How does topography affect precipitation and air movement at a site?
3. Explain human body's heat production processes.
4. Explain the different types of mechanical ventilation systems.
5. Explain the vertical and horizontal shading devices.
6. How will you provide the openings in tropical upland climate?
7. How will you design external spaces in composite climates?

[5x6 =30]

PART - C
(Maximum marks : 60)

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

UNIT I

- III** (a) Explain with schematic sketches how earth attains thermal balance. (8)
- (b) Explain the climatic factor 'Air temperature'. (7)

OR

- IV** (a) Define
(i) Tropical climates (ii) Solar constant
(iii) Humidity (iv) Westerlies. (8)
- (b) What is meant by site climate? Explain the local factors affecting site climate. (7)

UNIT- II

- V** (a) Give the thermal balance equation of human body and explain the heat gain and loss factors. (9)
- (b) What is meant by time lag and decrement factor. (6)

OR

- VI** (a) Explain the process of heat exchange of buildings to the environment. (6)
- (b) Write short notes on:
(i) Bioclimatic chart (ii) Sol air temperature
(iii) air-to-air transmittance (9)

UNIT- III

- VII** (a) What are the problems associated with heating? (6)
- (b) Explain functions of ventilation. (9)

OR

- VIII** (a) What is meant by cooling by ventilation? (6)
- (b) Explain how orientation and cross ventilation affect air flow through buildings. (9)

UNIT - IV

- IX** (a) Explain the traditional shelters found in hot dry climates. (6)
- (b) Explain the form and planning of buildings in hot dry climate. (9)

OR

- X** Explain the design of a shelter suitable for warm humid climate. (15)

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