

MANIPAL UNIVERSITY**THIRD SEMESTER B. ARCH. DEGREE EXAMINATION – NOVEMBER 2015****SUBJECT: ARC 211 – PRINCIPLES OF CLIMATIC DESIGN
(2014 SCHEME)**

Saturday, November 21, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer any FIVE FULL questions.

1A. What do you mean by Urban Heat Island Effect? Explain the factors responsible for Urban heat Island.

1B. Explain Schematically Global Wind Patterns.

(6+4 = 10 marks)

2. Explain the following building components affecting thermal comfort:

2A. Roof

2B. Wall

2C. Floor

2D. Fenestrations

2E. External color and texture

(2 marks × 5 = 10 marks)

3. What is psychrometric chart? Support with a descriptive diagram indicating each of its components.

(10 marks)

4A. Explain effect of Water bodies, Roof and Building shape on changing microclimate with diagram.

4B. What are the advanced Passive design techniques to be considered while designing the building in cold climate?

(4+6 = 10 marks)

5A. What are the design considerations to warm and humid Climate?

5B. What are the characteristics of hot and dry climate?

(6+4 = 10 marks)

6A. What is ecotect? What are important inputs does Ecotect software requires to calculate the thermal analysis?

6B. What are the advantages of ecotect?

(5+5 = 10 marks)

