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## MANIPAL UNIVERSITY

FOURTH SEMESTER B. ARCH. DEGREE EXAMINATION – MAY 2016

SUBJECT: CLIMATOLOGY (ARC-214/ ARC 307)  
(2010 & 2007 SCHEME)

Tuesday, May 17, 2016

Time: 10:00 - 13:00 Hrs.

Max. Marks: 50

- ✍ Answer any FIVE questions.
- ✍ Answer all parts of a question.
- ✍ Give sketches wherever necessary.

- 1A. What do you understand by climatic zones? Name the various global climatic zones. Specify the characteristics of these climatic zones.
- 1B. What do you understand by the term Tropics? Name the various types of Tropical Climates. Elaborate their characteristics and variations as per the various elements of climate.  
(5+5 = 10 marks)

- 2A. Explain the terms ET and CET. What is their significance to a designer of buildings?
- 2B. What is psychometric chart? How is it used to define relative humidity and its relationship with air temperature? Explain with sketches.  
(5+5 = 10 marks)

- 3A. Explain the thermal performance of cavity wall? Elaborate with Sketches.
- 3B. What are the sources of heat load in buildings? What measures would you suggest to reduce air- conditioning load in commercial buildings?  
(4+6 = 10 marks)

4. What are the objectives of effective day lighting? Explain how effective day lighting can be achieved in the tropics? Elaborate with sketches.  
(10 marks)

5. Write short notes on the following:

- 5A. Coefficient of absorbance
- 5B. Coefficient of reflectance
- 5C. Sol-air temperature
- 5D. Thermal Gradient

(2½ marks × 4 = 10 marks)

- 6A. Briefly explain the characteristics of warm – humid climate.
- 6B. Explain the building design recommendations for the same.  
(4+6 = 10 marks)

