

**MANIPAL UNIVERSITY****FOURTH SEMESTER B. ARCH. DEGREE EXAMINATION – MAY 2016****SUBJECT: PRINCIPLES OF SUSTAINABLE DESIGN (ARC-14-212)  
(2014 SCHEME)**

Saturday, May 28, 2016

Time: 14:00 - 17:00 Hrs.

Max. Marks: 50

- ✍ **Answer any FIVE questions.**  
✍ **Support your answers with sketches wherever necessary.**

1A. What is climate change?

1B. What are impacts of building sector on climate change?

(5+5 = 10 marks)

2A. What is sustainable site planning?

2B. What is brownfield development?

(5+5 = 10 marks)

3A. Briefly explain the design parameters for warm and humid climate.

3B. Explain with the help of sketches the heat transfer in buildings with respect to conduction, convection and radiation.

(5+5 = 10 marks)

4A. Explain various methods of recycling waste water.

4B. Explain rain water harvesting strategies with relevant sketches.

(5+5 = 10 marks)

5A. Explain construction waste management.

5B. Explain the various methods by which recycled waste can be used as alternative building materials.

(4+6 = 10 marks)

6. **Briefly explain the following:**

6A. LEED

6B. GRIHA

(5 marks × 2 = 10 marks)

