

MANIPAL UNIVERSITY**FOURTH SEMESTER B. ARCH. DEGREE EXAMINATION – JULY 2017****SUBJECT: PRINCIPLES OF SUSTAINABLE DESIGN (ARC-14-212)
(2014 SCHEME)**

Thursday, July 13, 2017

Time: 14:00 - 17:00 Hrs.

Max. Marks: 50

- ✍ **Answer any FIVE of the questions.**
✍ **Support your answers with sketches wherever required.**

- 1A. What is climate change?
1B. Explain the impacts of building sector on climate change.
(5+5 = 10 marks)
2. Explain various strategies for passive cooling in warm and humid climate.
(10 marks)
3. Explain with help of sketches the heat transfer in buildings with respect to conduction, convection and radiation.
(10 marks)
4. Explain water conservation techniques at the site and building level.
(10 marks)
5. **Explain any TWO the following:**
5A. Bio Swale
5B. Rain water harvesting
5C. Sewage treatment Plant
5D. Green-roof systems
(5 marks × 2 = 10 marks)
6. Explain the various green building rating systems in India.
(10 marks)

