

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

Friday, May 05, 2017

Time: 10:00 - 13:00 Hrs.

Max. Marks: 50

 **Answer any FIVE questions.**

 **Support your answers with sketches wherever necessary.**

1A. Explain the causes of anthropogenic climate change.

1B. Explain Climate Change mitigation and adaptation strategies.

(5+5 = 10 marks)

2. What are the two most important parameters which defines the climate of any built space?
What are the conventional units of these parameters?

(5+5 = 10 marks)

3. **Explain any TWO of the following:**

3A. Bio Swale

3B. Sewage treatment Plant

3C. Green-roof systems

3D. Reverse osmosis and membrane separation of water treatment

(5 marks × 2 = 10 marks)

4. **Briefly explain the following:**

4A. Construction and demolition waste management.

4B. Various methods by which recycled waste can be used as alternative building materials.

(5+5 = 10 marks)

5. **Write short notes on the following:**

5A. Bureau of Energy Efficiency – BEE.

5B. Energy conservation and Building Code – ECBC.

(5+5 = 10 marks)

6. What is Life Cycle Assessment (LCA) of Buildings?

(10 marks)

