



## MASENO UNIVERSITY

### UNIVERSITY EXAMINATIONS 2013/2014

SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF ARTS IN INTERIOR DESIGN WITH  
INFORMATION TECHNOLOGY

(MAIN CAMPUS)

ADI 208: ENVIRONMENTAL DESIGN AND ERGONOMICS

Date: 3<sup>rd</sup> April, 2014

Time: 8.30 – 10.45 a.m.

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#### INSTRUCTIONS:

- Answer ALL questions from SECTION A (COMPULSORY) – 30 marks.
- Answer Question FIVE and ANY OTHER ONE question from Section B (20 marks).
- All questions must be answered in the answer booklets provided.

**SECTION A- 40 MARKS.**

**ANSWER ALL THE QUESTIONS FROM THIS SECTION.**

1. Define the following terms: (4 Marks)
  - a. Solar thermal drying
  - b. Sustainable architecture
  - c. Flexion
  - d. Embodied energy
2. State
  - a. Three possible uses of medium thermal collectors. (3 Marks)
  - b. Four features of an energy efficient building. (4 Marks)
  - c. Two possible sources of renewable energy. (2 Marks)
  - d. Three sources of green design materials. (3 Marks)
3. Advance
  - a. Four principles of rational workspace layout. (4 Marks)
  - b. Three fundamental purposes of a seat. (3 Marks)
  - c. Three determinants of seating comfort. (3 Marks)
  - d. Five hand and wrist postures. (5 Marks)
4. Outline
  - a. Three variables which determine rate of thermal comfort. (3 Marks)
  - b. Two effects of high humidity on a building. (2 Marks)
  - c. Three levels of analysis environmental psychologists use. (3 Marks)
  - d. Three factors which make environmental psychology distinctive from other branches of psychology. (3 Marks)

**SECTION B- 30 MARKS.**

**ATTEMPT QUESTION FIVE AND ANY OTHER FROM THIS SECTION.  
ALL QUESTIONS CARRY EQUAL MARKS.**

5. "Manual materials handling is an area in which injuries to employees can occur." Discuss. (15 Marks)
6. "The physical environment can influence the social and task interactions among people in it". Suggest specific recommendations on how an interior can be designed. (15 Marks)
7. Discuss ergonomic considerations of :
  - a. The easy chair and its "relatives." (6 Marks)
  - b. The office desk and its user. (9 Marks)
8. Discuss handle design under the following sub topics:
  - a. Purposes of handles. (6 Marks)
  - b. Guidelines to follow in handle design (9 Marks)