



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2015/2016

**THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF ARTS IN DESIGN INTERIOR DESIGN WITH
INFORMATION TECHNOLOGY**

MAIN CAMPUS

ADI 305: LIGHTING AND ACOUSTICS

Date: 12th January, 2016

Time: 8.30 - 10.30am

INSTRUCTIONS:

- Answer ALL questions from Section A (40 marks) in the answer booklet
- Answer any other TWO questions from Section B in the answer booklet provided.

SECTION A- 40 MARKS

Answer ALL questions from SECTION A in the Answer Booklet

1. Differentiate between the following:
 - a. Ambient lighting and task lighting. (6 Marks)
 - b. Direct glare and reflected glare. (4 Marks)
 - c. Clerestory windows and light tubes. (4 Marks)
2. Outline the features of the following:
 - a. Heliostats (4 Marks)
 - b. Solarium. (4 Marks)
3. Briefly discuss the following terms:
 - a. Sound transmission loss (4 Marks)
 - b. Impact sound. (4 Marks)
4. Suggest
 - a. The triple effect of light. (3 Marks)
 - b. Two negative effects of noise. (2 Marks)
 - c. Two Basic elements for noise control. (2 Marks)
 - d. Three ways in which acoustical problems can be solved in a room. (3 Marks)

SECTION B- 30 MARKS

Answer ANY TWO questions from this Section in the Answer Booklet. One question should be on lighting; while one should be on acoustics.

5. Mr. Waiganjo would like to install a lighting system in his office is debating on whether to use the traditional quality criteria of lighting or the new quality criteria of lighting. Outline points of consideration.
(15 Marks)
6. The sound transmission loss of wall constructions can be improved by increasing mass, breaking the sound vibration path and providing cavity absorption. Discuss.
(15 Marks)
7. The third year design class has been invited to attend a Conference on Acoustics. Outline what your presentation will entail based on the following areas:
 - a. Sound reflections. (5 Marks)
 - b. Room and wall shapes. (5 Marks)
 - c. Acoustical treatment. (5 Marks)
8. Discuss lighting based on the following sub topics
 - a. Visual comfort (5 Marks)
 - b. Vitality (5 Marks)
 - c. Empowerment (5 Marks)