



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**THIRD YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN GEOSPATIAL
INFORMATION SCIENCE WITH INFORMATION
TECHNOLOGY**

CITY CAMPUS

**PGS 312: DECISION SUPPORT SYSTEMS AND
SCENARIO DEVELOPMENT**

Date: 23rd November, 2016

Time: 2.00 - 5.00. pm

INSTRUCTIONS:

- Answer question ONE and any other TWO questions.



**PGS 312: DECISION SUPPORT SYSTEMS AND SCENARIO
DEVELOPMENT**

(City Campus)

Answer question ONE and any other TWO questions

1. a) Write short notes on the following (12 marks)
 - i) Weighted Sum Model
 - ii) MADM and MODM
 - iii) Multi-Criteria Decision Analysisb) Outline the steps that best illustrate the organization of the Multi Criteria Decision Making ELECTRE method. (7 marks)
 - c) State the generic constituencies that are appropriate to the evaluation of a Decision Support System (3 marks)
 - d) Explain the different techniques for assigning the weights of importance to evaluation criteria (8 marks)
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2. a) Discuss the factors that should be considered when designing Decision Support Systems for sustainable development.(10 marks)
 - b) With the aid of a table, explain the decision making phases, support methodologies and support function. (10 marks)
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3. a) With the help of a diagram, explain how GISs serve both as a tool box and a database for urban and regional planning. (5 marks)
 - b) The process of developing a Decision Support System often revolves around five building blocks. Discuss (15 marks)
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4. a) Discuss the strengths and weaknesses of various methodological approaches for Scenario Analysis (10 marks)
 - b) Explain the potential strategies under different scenarios as presented by Gambelli and Zanoli (10 marks)
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5. a) According to Sprague and Watson, DSS evolved as a field of study and practice during the 1980s. Explain FOUR important principles that evolved during these early developments (12 marks)
 - b) Discuss some of the future trends for Decision Support Systems (8 marks)
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6. Explain the main aspects of managerial problem solving and decision making and their implications for support. (20 marks)