



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2015/2016

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE
DEGREE OF BACHELOR OF ARTS WITH INFORMATION
TECHNOLOGY**

CITY CAMPUS

PGS 221: NETWORK ANALYSIS

Date: 19th April, 2016

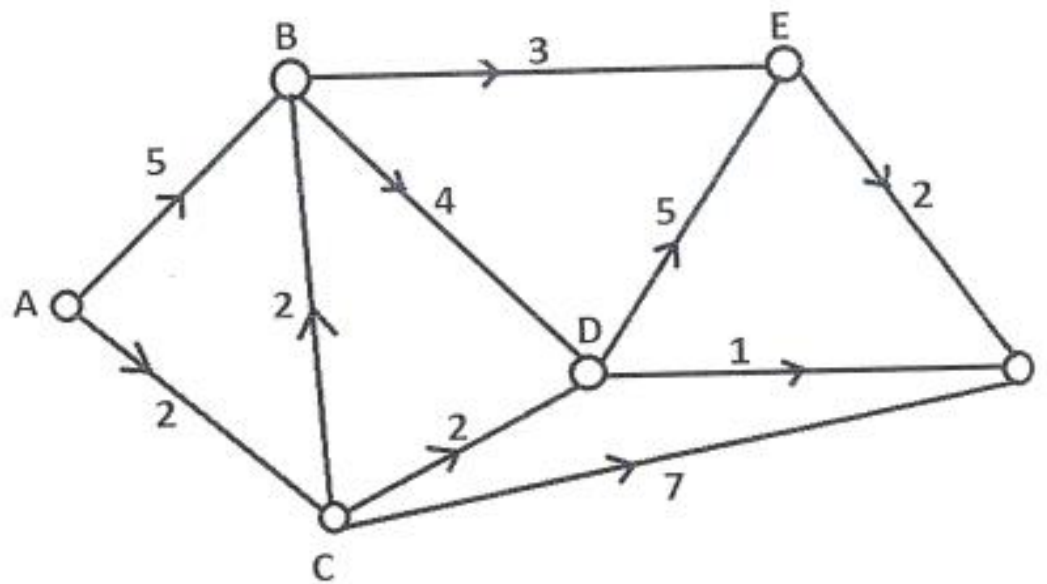
Time: 2.00 - 4.00pm

INSTRUCTIONS:

- **Answer Question ONE and any other TWO.**

QUESTION ONE (30 marks)

- What is a network? Give its importance. (3marks)
- Compare directed and undirected networks giving examples of each (4 marks)
- Discuss the primary dataset types contained in a Geo-database (6 marks)
- Discuss the different nodes that can be used in a network (5 marks)
- Discuss the shortest path Dijkstra's algorithm used in network analysis and give the solution to the following. (12 marks)



QUESTION TWO (20 marks)

- a) What is a Geo-database? (2 marks)
- b) Discuss the types of geo-databases (8 marks)
- c) Discuss Geo-coding and address management. (10 marks)

QUESTION THREE (20 marks)

Discuss the analysis techniques used in network analysis. (20 marks)

QUESTION FOUR (20 marks)

- a) Discuss the network analysis workflow (12 marks)
- b) Discuss any four types of layers in network analysis (8 marks)

QUESTION FIVE (20 marks)

- a) Discuss using examples, the real world applications of network analysis (20 marks)

QUESTION SIX (20 marks)

- a) Discuss the following as used in network analysis (20 marks)
 - i. Elements
 - ii. Connectivity
 - iii. Attributes
 - iv. Parameters
 - v. Evaluators