



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

P.O. Box 62157
00200 Nairobi - KENYA
Telephone: 891601-6
Fax: 254-20-891084
E-mail: academics@cuea.edu

AUGUST – DECEMBER 2018 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER AND LIBRARY SCIENCE

REGULAR PROGRAMME

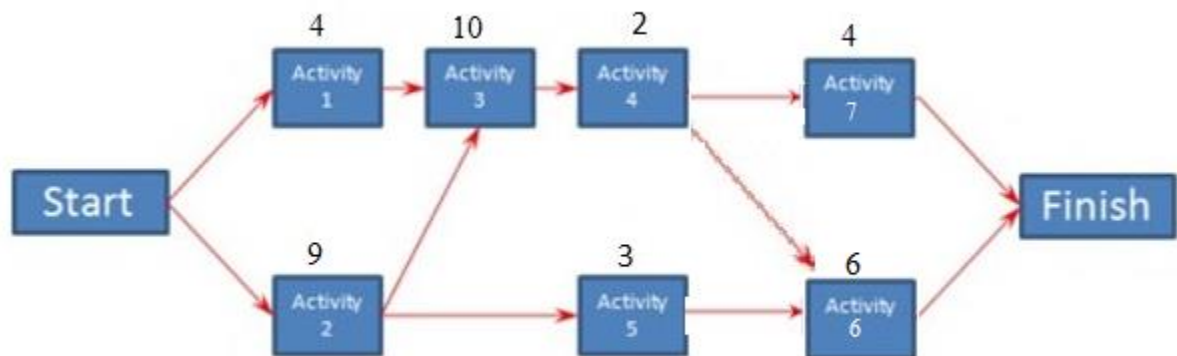
CMT 301: RESEARCH METHODOLOGY

Date: DECEMBER 2018

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) i) What are the two major types of research proposal? **(2 marks)**
- ii) Explain the three groups of research methods **(3 marks)**
- iii) Explain the two classification of traffic flow **(3Marks)**
- b) i) How many paths are in the diagram below? Calculate each of the paths and identify the critical path **(3Marks)**



Using the Critical Path Method (CPM)

- ii) State the four steps involved in PERT planning **(2 Marks)**

- iii) What are the three important questions that a researcher must ask himself before the final selection of a problem is done? **(3 Marks)**
- c) i) Name the three factors that usefulness and relevancy of secondary data depend upon **(3 marks)**
- ii) What is Dynamic programming? **(1 marks)**
- iii) What are the three steps in preparing the grouped frequency distribution? **(3 marks)**
- d) i) What are the four criteria for selection of data collection method? **(2marks)**
- ii) Explain the two types of transport planning process **(2 Marks)**
- iii) With the help of a diagram illustrate the report preparation and presentation process **(3 Marks)**
- Q2. a) Explain three theoretical frameworks for qualitative analysis **(9 marks)**
- b) What are the three tools that support data analysis? **(3 marks)**
- c) Explain the four steps involved in Dynamic Programming Algorithm: **(4 marks)**
- d) Discuss the four steps models of Routing and scheduling **(4 marks)**
- Q3. a) Explain the three types of review **(6 Marks)**
- b) Explain the three advantages network models have over linear programming? **(6 marks)**
- c) Explain four ways in which research can be used in order to gain new knowledge **(4 marks)**
- d) Explain any of the four uses of critical path schedules **(4 marks)**
- Q4. a) Explain five steps in problem identification process **(10 marks)**
- b) Describe any of the three objectives of research **(3Marks)**
- c) What are the four models of routing and scheduling? **(4 Marks)**
- d) Explain three advantages of simulation **(3 marks)**

- Q5. a) Declarative format is much popular among researchers for the formulation of a research problem, what are the four features that make it preferable? **(4 marks)**
- b) Explain the three methods of tabulation. **(6marks)**
- c) With the help of a diagram illustrates stages of research process. **(6marks)**
- d) Describe the four main parts of a report **(4 marks)**

END