



MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY POSTGRADUATE EXAMINATION

2020/2021 ACADEMIC YEAR

**FIRST YEAR FIRST SEMESTER EXAMINATION FOR MASTER OF
INFORMATION TECHNOLOGY**

SIT 601—ANALYTICS AND BUSINESS INTELLIGENCE

DURATION: 3 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer Any Four questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

QUESTION ONE (25 MARKS)

- a) Discuss how information and knowledge are the backbone of the decision making process, use data decision action cycle to explain further (6marks)
- b) Justify why data mining is classified under prediction analytics (5marks)
- c) Identify any five business environmental factors that create pressure on organizations and explain how various ways they affect it (10marks)
- d) Differentiate between OLTP and OLAP, explain how they have enhanced the business processing (4marks)

QUESTION TWO (25 MARKS)

- a) With the aid of a diagram explain the components of business pressure –response –support model on improving business process and decision making (6marks)
- b) According to Gorry and Scott-Morton classical framework, explain their proposed structuredness degree and type of controls for decision support framework (6marks)
- c) “Is management the same as decision making “Discuss (5marks)
- d) Prescription analysis is considered to be a step further ahead of production analytics and substantially different from it, discuss why provide an example of each and outline their differences (8marks)

QUESTION THREE (25 MARKS)

- a) Critique how Simon’s four phases of decision making has impacted on web (4marks)
- b) Some “error” in decision making can be attributed to the notion of decision making from the gut, Explain what is meant by this and how such error can happen (7marks)
- c) Discuss the complexity in including behaviour platforms into computerized system (8marks)
- d) Discuss security concern involved in building data warehouse (6marks)

QUESTION FOUR (25 MARKS)

- a) In what circumstance would a relational database be more suitable than multidimensional database? Justify your answer (5marks)
- b) Why do we need data processing? Justify your answer and explain the main task and relevant techniques used in data processing (6marks)

- c) Distinguish between an inconsistent value and missing value? Discuss when can inconsistent values be removed from data set and missing data be ignored (8marks)
- d) Discuss the differences between performance management and performance measurements (6marks)

QUESTION FIVE (25 MARKS)

- a) Discuss the common ANN architecture and explain main difference between kahonen's self-organization function map and Hopfield networks (6marks)
- b) Discuss how social analysis has impacted on business processing activities (6marks)
- c) Discuss the roles, capabilities and limitations of natural language processing in text mining. (8marks)
- d) Discuss the challenges that one should be mindful of when considering implementation of Big data analytics. (5marks)