



ZIMBABWE

**MINISTRY OF HIGHER AND TERTIARY EDUCATION,
INNOVATION, SCIENCE AND TECHNOLOGY
DEVELOPMENT**

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

NATIONAL DIPLOMA

**IN
INFORMATION TECHNOLOGY**

MODULE: Research And Project Management PAPER NO: 553/23/M10

DURATION: 3 Hours

NOVEMBER/DECEMBER 2025 EXAMINATION

REQUIREMENTS

- 1. Answer booklet.**
- 2. Statistical tables.**
- 3. Non- programmable statistical calculator.**

INSTRUCTIONS TO CANDIDATE

- 1. Answer all questions.**

QUESTION 1

- a) Outline five (5) factors to be considered in the selection of a research problem. (10marks)
- b) Describe research objectives and their importance in a study. (4marks)
- c) Discuss three (3) ethical considerations to be born in mind when collecting and analysing data. (6marks)

QUESTION 2

- a) In a class test, the scores of students are [55, 60, 65, 70, 75] Calculate the standard deviation. (4marks)
- b) In a store, the number of customers per hour on a Friday is recorded as follows: [10, 15, 15, 20, 25, 30, 35].
 - i) Calculate the mean and mode. (4marks)
 - ii) Outline the insights you can draw from the measures in (i) above. (2marks)
- c) i) Identify four (4) similarities between purposive sampling and quota sampling. (8marks)
ii) Describe how they differ in terms of selection criteria. (2marks)

QUESTION 3

- a) With the aid of examples, differentiate between discrete and continuous probability distributions. (10marks)
- b) If the heights of adult males in a population are normally distributed with a mean of 175cm and a standard deviation of 10cm calculate percentage of males that are taller than 185cm. (5marks)
- c) Explain why it is crucial for a null hypothesis to be testable. (3marks)
- d) Identify two (2) common mistakes researchers make when formulating a hypothesis. (2marks)

QUESTION 4

- a) Assert the importance of project scope in project management. (2marks)
- b) Describe the following aspects of drawing up a project budget.
- i) Identify cost components
 - ii) Estimate cost components
 - iii) Create a budget framework
 - iv) Compile the budget (8marks)
- c) A project has been defined to contain the following list of activities along with their required times for completion:

Activity Number	Activity	Expected Completion Time	Dependency
1	Requirements collection	5	-
2	Screen design	6	1
3	Report Design	7	1
4	Database Design	2	2,3
5	User documentation	6	4
6	Programming	5	4
7	Testing	3	6
8	Installation	1	5,7

- i) Draw a PERT chart for the activities. (2marks)
- ii) Calculate the earliest expected completion time (5marks)
- iii) Show the critical path. (3marks)

QUESTION 5

- a) Explain the following aspects in innovation support and maintenance
- i) Organisational support
 - ii) Resource allocation
 - iii) Training and development
 - iv) Monitoring and evaluation
 - v) Sustaining Innovation culture (10marks)
- b) Outline five (5) external factors that affect the success of an innovation. (10marks)

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