



ZIMBABWE

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

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

NATIONAL DIPLOMA

IN

**PLASTICS TECHNOLOGY, CHEMICAL ENGINEERING, ACT, PHARMACY,
METALLURGICAL ASSAYING, FOOD SCIENCE AND TECHNOLOGY**

SUBJECT: Research Methods

**PAPER NO: 606/15/S17
606/18/S17**

DURATION: 3 hours

JUNE 2026 EXAMINATION

REQUIREMENTS

INSTRUCTIONS TO CANDIDATE

- 1. Answer five (5) questions from this paper.**
- 2. Each question carries a total of twenty (20) marks.**

This paper consists of 3 printed pages.

QUESTION 1

A department store, A, has four competitors: B, C, D and E. Store A hires a consultant to determine if the percentage of shoppers who prefer each of the five stores is the same. A survey of 1100 randomly selected shoppers is conducted, and the results about which one of the stores shoppers prefer are below.

Store	A	B	C	D	E
Number of shoppers	262	234	204	190	210

Is there enough evidence using a significance level $\alpha = 0.05$ to conclude that the proportions are really the same? (20 marks)

QUESTION 2

Discuss the use of a questionnaire in research. (20 marks)

QUESTION 3

Demonstrate the importance of literature in research. (20 marks)

QUESTION 4

Discuss the research process in your area of specialisation. (20 marks)

QUESTION 5

Evaluate the components of a research proposal in your area of specialisation. (20 marks)

QUESTION 6

- a) Determine the mean, median and modal values for the data set:
[3, 8, 10, 7, 5, 14, 2, 9, 8] (10 marks)
- b) Calculate the standard deviation from the mean of the set of numbers:
[35, 22, 25, 23, 28, 33, 30] correct to 3 significant figures. (10 marks)

QUESTION 7

Demonstrate the importance of computers in research.

(20 marks)

QUESTION 8

Discuss the characteristics of research in your area of specialisation.

(20 marks)

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