



ZIMBABWE

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

**HIGHER EDUCATION EXAMINATIONS COUNCIL
(HEXCO)**

NATIONAL DIPLOMA

IN

WATER RESOURCES ENGINEERING

MODULE: Water Resources Development PAPER NO: 588/23/M02

DURATION: 3 Hours

MAY/JUNE 2024 EXAMINATION

REQUIREMENTS

Calculator.

INSTRUCTIONS TO CANDIDATE

- 1. Answer all questions.**
- 2. All question carry equal marks.**
- 3. Start each question on a fresh page.**
- 4. Do not write anything on question paper.**
- 5. Do not tear off pages from answer booklet.**

PAPER NO: 588/23/M02 – WATER RESOURCES DEVELOPMENT

QUESTION 1

Discuss the key components of land capability classification. (20 marks)

QUESTION 2

a) Outline the key principles of an EIA process. (10 marks)

b) Explain how you would produce a BOQ. (10 marks)

QUESTION 3

a) Define pegging in construction work.

b) Describe the pegging stages.

c) List the components of a water conveyance system.

[5]
[10]
[5]

QUESTION 4

a) Define EIA (2 marks)

b) List 8 principles of an EIA (8 marks)

c) An open channel has a trapezoidal cross section with a bottom width of 5m and a side slope of 2:1 (H:V) if the depth of flow is 2m, and average velocity in the channel is 1m/s. Calculate the discharge in the channel. (10 marks)

QUESTION 5

a) i) Define site plan. (3 marks)

ii) Pore water space. (2 marks)

iii) Substructure (3 marks)

b) explain importance of hydrogeological surveying (12 marks)

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