BOTSWANA OPEN UNIVERSITY

DIPLOMA IN INTEGRATED EARLY CHILDHOOD DEVELOPMENT

PAPER NAME: TEACHING MATHEMATICS FOR UNDERSTANDING

PAPER CODE: TM 122

YEAR 2

SESSIONAL EXAMINATION

100 MARKS

Instructions

This examination consists of **three (3)** sections **A, B and C**

Answer questions according to instructions give each section.

Write in good grammatical English

Section	Possible Marks	Learner Marks
A – Structured Questions	20	
B – Case Study	20	
C - Essays	60	
Total	100	

This question paper has three **(3)** printed pages including the cover page.

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SECTION A: STRUCTURED QUESTIONS   (20 MARKS)

Instruction: Answer all questions in this section

1. Explain the following Mathematical concepts and terms   (4 marks)

   a) Cardinality of a set

   b) Fraction and say when it is used at home.

2. List and explain the **two (2)** conceptions of mathematics listed below   (6 marks)

   a) External conception

   b) Internal Conception

3. Describe any **three (3)** number activities which a teacher can to teach pre-scholars counting   (6 marks)

4. Explain the difference between multiplication and division   (4 marks)

SECTION B: CASE STUDY   (20 MARKS)

Instruction: Read the passage below and answer questions that follow

When I passed slowly close to Dirett Day Care Centre, children and teacher were murmuring something, raising their hands and bending. Boxes with colourful pieces of items were on children's tables "Ah! This Day Care, when will children learn how to write?" I wondered and moved on.

1. Why were children and their teacher murmuring?   (2 marks)
2. Why were they raising their hands and bending?   (4 marks)
3. What objects were in the boxes and why were they multi-coloured?   (4 marks)
4. Give any two (2) reasons why formal writing was delayed.   (4 marks)

5. a) Name Bruner's **two (2)** stages of representation in which Day Care children would be.

(2 marks)

   b) Explain with **one (1)** point for each; how children learn during this stage   (4marks)

   - Stage 1   Inactive stage
   - Stage 2   Iconic – stage

SECTION C: ESSAY QUESTIONS   (60 MARKS)

Instruction: Answer the two questions below:

Question 1

In any **four (4)** points, describe the behaviourist approach with examples, when teaching young learners.   (30 marks)

Question 2

Describe how the constructivist teacher would use the following ideas to teach young children mathematics.   (30 marks)

i)   Encouraging and accepting, children's autonomy and initiative.

ii)   Using brainstorming and allowing children's responses.

iii)   Encouraging children in hands an-activities.

iv)   Creating a mathematical Environment.

Mark Allocation

Introduction   (3marks)

Content   (24marks)

Conclusion   (3marks)