Semester-end Examination
Paro College of Education
Royal University of Bhutan

Module: MTA202 (Mathematics in Lower Primary II)   **Programme:** BEd (Pry)   **Level:** II

Writing Time: 2 hours   **Full marks:** 60

Instruction: There are *twelve* questions. Answer any *ten* questions. All questions carry equal marks. The intended mark for each question is given in brackets alongside.

Question 1   [3+3 = 6]

Explain with appropriate illustrations any two approaches of introducing division concept in the lower primary classes.

Question 2   [6]

Design an activity for class I children on measuring mass using non-standard units. Use illustrations wherever necessary.   [6]

Question 3   [6]

Describe an activity to familiarize the basic 3-D shapes in lower primary classes.

Question 4   [6]

The table below shows the fruits liked by Class PP children of a primary school. Draw a pictograph to represent this information completely.

Favourite fruits	Apple	Mango	Banana	Orange	Litchi	Pineapple
Number of students	8	6	5	7	3	4

Question 5   [2 + 4 = 6]

Explain the terms "capacity" and "volume". Two objects having same volume can have different capacities. Illustrate to justify using appropriate examples.

Question 6   [6]

Investigate the relationship between *area* and *perimeter* of polygons using proper illustrations and adequate examples to make a conclusive statement.

Question 7   [3 × 2 = 6]

Illustrate or model $\frac{3}{4}$ as:

   a. Twelfths
   b. Eighths
   c. Hundredths

Question 8 [6]

Consider the following questions to investigate the product of even and odd numbers.

- Is the product of two even numbers even or odd?

- Is the product of two odd numbers even or odd?

- Is the product of one odd number and one even number even or odd?

Explain why these types of products occur using words, drawings, symbols or any other.

Question 9 [2.5 + 3.5 = 6]

List five counting principles. Choose one of them and design an activity that will help support young children's understanding of the concept involved in it.

Question 10 [6 × 1 = 6]

A feely bag contains six different colored cubes; *6 red, 3 green, 8 black, 4 white, 10 yellow and 9 blue*. If you randomly pick a cube from the feely bag, what is the theoretical probability of picking,

    i.   either a red or a white colour cube?
   ii.   any colour cube except yellow?
  iii.   any color cube except blue or red?
   iv.   any colour cube?
    v.   neither a blue nor a green cube?
   vi.   either a black, a red or a green cube?

Question 11 [6]

Prepare an instruction card to find the area and perimeter of an irregular shape. Use illustrations appropriately to clarify the instructions.

Question 12 [3+3 = 6]

Explain the following concepts using relevant examples from everyday events.

  a. Theoretical probability.
  b. Experimental probability.