

Spring Semester Examination 2021
Paro College of Education
Royal University of Bhutan
Paro

Module: MAT202 (Maths in Lower Primary 2) **Programme:** BEd (P) **Level:** II

Writing Time: 3 hours

Full Marks: 100

Instruction: *This paper consists of three pages. Spend the first 15 minutes on reading and going through the paper. Do not start writing during this time period. You will be given full 3 hours to write your answers. The paper has two sections, A and B. You are required to attempt and provide your solutions to all the questions under both the sections. Read to understand each question properly before answering them. The marks for the sections and individual questions are indicated along with them.*

Section A (10*3 = 30 marks)

(Answer all parts of Question 1)

Question 1

- i. What is Measurement essentially about? Explain briefly but succinctly.
 - ii. What is a rhombus?
 - iii. Sketch a square based pyramid and tell how many vertices it has.
 - iv. A pack of cards has 13 each of King, Queen, Heart, and Spade symbols. The cards in the pack are shuffled thoroughly. What is the theoretical probability of getting either a King or a Queen if a card is dealt randomly?
 - v. How many lines of symmetry does a rectangle, which is not a square, have? Sketch such a rectangle and show its lines of symmetry.
 - vi. What is a tessellating shape? Illustrate it with an example and a non-example.
 - vii. Three friends shared a loaf of bread, which consists of 15 slices, equally. What portion of the bread did each person have?
 - viii. To subtract a number from 70, Selden counted forward 3 and then 30. What number was she subtracting?
 - ix. The mean of a set of numbers is 8. What might the numbers be?
 - x. What does the 3 D refer to when we talk about a 3-D shape?
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Section B (7*10 = 70 marks)
(Answer all the questions from 2-8)

Question 2

- a) Add $8 + 7$ using three different strategies. Give a name for each of your strategies, show each step in the process of your addition, and explain them briefly where appropriate. (6 marks)
- b) How is adding $42 + 38$ like adding $52 + 28$? Explain how they are alike. (4 marks)

Question 3

- a) Subtract $12 - 8$ using three different strategies. Give a name for each of your strategies, show each step in the process of your subtraction, and explain them briefly where appropriate. (6 marks)
- b) How is subtracting $57 - 29$ like subtracting $58 - 30$? Explain how they are alike. Which of the two do you find easier to subtract, and why? (4 marks)

Question 4

- a) Explain $3 \times 6 = 18$ in three different ways. Describe what each number in the multiplication sentence mean in each case. Use illustrations where appropriate. (6 marks)
- b) How is multiplying 32×5 like multiplying 16×10 ? Which of the two multiplications is easier for you? Why? (4 marks)

Question 5

- a) Explain $12 \div 6 = 2$ in three different ways. Describe what each number in the division sentence mean in each case. Use illustrations where appropriate. (6 marks)
- b) Write down the multiplication-division fact family for $12 \div 6 = 2$. (2 marks)
- c) You are dividing 432 by 2. How could you use multiplication to help you divide it? (2 marks)

Question 6

- a) Choose a proper fraction greater than $\frac{1}{2}$. Represent that fraction in three ways. Use illustrations where appropriate. (6 marks)
- b) A number between 3 and 4 is slightly closer to 4 than 3. What could the number be? Explain why it is closer to 4 than to 3. (2 marks)
- c) You add two fractions and the sum is $\frac{9}{10}$. What are your fractions? (2 marks)

Question 7

- a) Write down at least four words that describe Length or are versions of Length. (2 marks)
- b) Create a rectangle with dimensions of 8 units by 2 units. What is the perimeter of the rectangle? What is the area of it? (4 marks)
- c) Create another rectangle with the same perimeter as the one in Question b above, but with different dimensions. What is the area of your rectangle? (4 marks)

Question 8

- a) In what ways are prism and cylinder similar? In what ways are they different? (2 marks)
- b) In what ways are prisms and pyramids similar? In what ways are they different? (2 marks)
- c) Describe an event, in the form of a statement, for which the probability is 'certain'. Explain briefly why it is so. (3 marks)
- d) Describe an event, in the form of a statement, for which the probability is 'very unlikely'. Explain briefly why it is so. (3 marks)