

Royal University of Bhutan  
Paro College of Education  
Spring Semester Examination – 2013

**B.Ed(P) IV – Math in Upper Primary I (MAT 403)**

**Full mark: 100**

**Pass mark: 50**

**Time: 3 hours**

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**Instruction:** You are NOT allowed to use any electronic device. You will be supplied with Grid paper to answer some of the questions.

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**Direction:** This paper contains six questions. You can answer **ANY FIVE** questions. All questions carry 20 marks each. Mark for each question or sub question is given in the square bracket.

**Question 1**

- a) How can you teach that a number is divisible by 11? Explain. [10]
- b) Derive a formula to find the area of a parallelogram. [10]

**Question 2**

- a) Find all possible missing values represented by  $\square$  in the following number.  
 $2\square4\square6\square$  is divisible by 9. [10]
- b) How can you teach multiplication times table to your students so that multiplication becomes easier to them when they don't know multiplication times table or when they don't have calculator. [10]

**Question 3**

- a) Model  $12 \times 9$  by using base ten blocks. Explain how you will use it to teach in your classroom. [10]
- b) Solve using Cuisenaire rods:  $\frac{1}{2} \div \frac{1}{3}$  Explain. [10]

**Question 4**

- a) Model  $-4 - (-8)$  using algebra tiles or counter and solve. Explain. [10]
- b) Model the following multiplication problem using grid paper.
  - a.  $\frac{1}{3} \times \frac{3}{5}$  [5]
  - b.  $0.03 \times 0.54$  [5]

### Question 5

- a) 7, 14, 21, 28, 35, \_, \_, \_ ... Derive a rule or a formula that will generate the next number in the sequence. Calculate  $n_k, n_{k-1}, n_{k+3}$  if  $k = 19$ . [10]
- b) Divide 250 by 50 using base ten blocks. [10]

### Question 6

- a) Solve using algebra tiles:  $-5 \times -4$  [10]
- b) The following are number of student teachers from Paro College of Education playing various games. Represent the following data using bar graph. [5]

| Volley ball | Foot ball | Basket ball | Khuru | Archery | Degor |
|-------------|-----------|-------------|-------|---------|-------|
| 25          | 90        | 55          | 60    | 150     | 20    |

- c) The following are test scores of the following people in a Mathematics test. Find their mean score, median score, mode and range. [5]

|           | Math |
|-----------|------|
| Tashi     | 70   |
| Pema      | 67   |
| Wangchuk  | 89   |
| Lhamo     | 78   |
| Uden      | 75   |
| Selden    | 55   |
| Duba      | 46   |
| Yoda      | 67   |
| Tempel    | 70   |
| Tara Nidi | 67   |
| Ranganath | 85   |
| Bolanath  | 67   |
| Dungel    | 45   |
| Dorji     | 65   |
| Tobgay    | 50   |