MAY 2022
EBS 322
METHODS OF TEACHING PRIMARY SCHOOL MATHEMATICS
2 HOURS

Candidate's Index Number
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UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
SCHOOL OF EDUCATIONAL DEVELOPMENT AND OUTREACH
INSTITUTE OF EDUCATION

COLLEGES OF EDUCATION
FOUR-YEAR BACHELOR OF EDUCATION (B.ED)
THIRD YEAR, END-OF-FIRST SEMESTER EXAMINATION, MAY 2022

MAY 16, 2022 **METHODS OF TEACHING PRIMARY SCHOOL MATHEMATICS** **9:00 AM – 10:00 AM**

This paper consists of two sections, A and B. Answer ALL the questions in Section A and TWO questions from Section B. Section A will be collected after the first 1 hour.

SECTION A
(10 MARKS)

Answer ALL questions in this Section.

For items 1 to 10, each item is followed by four options lettered A to D. Read each item carefully and circle the letter of the correct or best option.

1. A cuboid poly-tank of length, 3.5m, width, 2.5m and height, 4.0m can be filled with water of capacity …….. litres.
   A. 35
   B. 350
   C. 3500
   D. 35000

2. The fathom, span, and cubit are body parts used as arbitrary units in measurement of ……..
   A. areas.
   B. capacities.
   C. lengths.
   D. masses.

3. All these are ways of describing a set to primary school learners **except** ……..
   A. describing the elements of the set.
   B. listing the elements of the set.
   C. listing the subsets of the set.
   D. using set builder notation.

4. A set with **k** elements has a total of ..... subsets.
   A. 2^k
   B. k^2
   C. $2k$
   D. $k + 2$

5. A solid cuboid has how many faces, vertices, and edges, respectively?
   A. 12, 8, and 6.
   B. 6, 12, and 8.
   C. 6, 8, and 12.
   D. 8, 6, and 6.

6. The ratio 3:6 means how .....
   A. many times more is 3 than 6
   B. many times more is 6 than 3?
   C. much more 6 is than 3?
   D. much more is 3 than 6?

7. Which of the following statements is true about a tetrahedron? A tetrahedron is a ..... triangular faces.
   A. pyramid with 4
   B. pyramid with 3
   C. prism with 4
   D. prism with 3

B4 learners were given the following stem and leaf plot on heights (cm) of students in a school to study and answer questions on. Their responses to the values of the mode, median, and mean are as shown in questions 8 to 10. Indicate which of the responses are correct in each case.

11	1 5
12	2 4 7
13	1 3 4 4
14	0

8. The modal height is ..... cm.
   A. 111
   B. 127
   C. 134
   D. 140

9. A B6 student must discover the median height as ..... m.
   A. 0.129
   B. 1.29
   C. 12.9
   D. 129.0

For items 11 to 14, write response in the space provided.

11. Describe how you would assist a B3 learner to find the product of 3×6, using the number line? **5 marks**

12. Describe with the help of diagrams, how you would assist a B5 learner to discover which of the fractions $\frac{2}{3}$ and $\frac{3}{5}$ is greater, using paper folding and cutting approach. **5 marks**

13. A dress maker uses a third of a metre piece of cloth to make a baby dress. Describe how you would assist B6 learners to find how many baby dresses the dress maker will make with a 2-metre piece of cloth. Illustrate with a number line. **5 marks**

14. Explain with the help of a diagram or diagrams, how you would assist B5 learners to find the centimetre squared (cm^2) equivalent of an area of 1-metre square ($1m^2$). **5 marks**

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SECTION B
[30 MARKS]

Answer any TWO questions from this Section.

1. a. Differentiate between a primary concept and a secondary concept, giving **two** examples in each case. **6 marks**

   b. Explain each of the following types of number giving **one** example in each case.
   i. Cardinal number; **3 marks**
   ii. Ordinal number; **3 marks**
   iii. Nominal number. **3 marks**

2. a. Describe an activity you would do in class to help a B1 learner who cannot count to conclude that there are more chairs in class than tables. **5 marks**

   b. Describe how you would assist a learner in B1 to find the answer to the subtraction sentence: 13 – 7, using the interpretation:
   i. Take away; **5 marks**
   ii. Comparison. **5 marks**

3. a. Using the Leg and Arm method (Ladder method), describe how you would help learners in B2 to find the product of:
   i. 3 and 6; **3 marks**
   ii. 6 and 3; **3 marks**

   b. Using the grouping interpretation for division, describe how you would lead a B3 learner to discover that $18 \div 3 = 6$. **9 marks**

3. a. Using the Leg and Arm method (Ladder method), describe how you would help learners in B2 to find the product of:
   i. 3 and 6; **3 marks**
   ii. 6 and 3; **3 marks**

   b. Using the grouping interpretation for division, describe how you would lead a B3 learner to discover that $18 \div 3 = 6$. **9 marks**

4. a. A learner in B4 concluded that $\frac{3}{8} + \frac{1}{8} = \frac{4}{16}$.
   i. Comment with a reason on the learner's answer? **1 mark**
   ii. What skill is the learner lacking? **1 mark**
   iii. Describe how you would use the number line to help the learner to overcome his/her difficulty. **3 marks**

   b. A rectangle ABCD has the coordinates of its vertices as $A(2, 3)$, $B(-2, 3)$, $C(a, b)$, and $D(2, -5)$. Describe how you would use the number plane to help a learner in B6 to find the coordinates of C. **10 marks**