Candidate's Index Number:

Signature:

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)
FIRST YEAR, FIRST SEMESTER MID-SEMESTER QUIZ, MARCH 2022

MARCH 15, 2022   ELEMENTARY ALGEBRA   3:00 PM – 3:30 PM

Answer ALL the questions.

For items 1 to 19, each stem 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 chemical shop received a consignment of 2,200 packs of a certain type of drugs. If the shopkeeper paid GH¢228,800.00 for the sale of the drugs, what is the price per pack?
   A. GH¢104.0
   B. GH¢ 114.4
   C. GH¢ 140.0
   D. GH¢ 141.4

2. A driver covered a distance of 250km in two and half hours. Find the rate.
   A. 100km/h
   B. 125km/h
   C. 250km/h
   D. 253km/h

3. A man shared his savings to his two daughters, Kukua and Akosua in the ratio of 4: 5 respectively. If the total savings to be shared is GH¢27,500.00, how much more did Akosua receive than Kukua?
   A. GH¢ 15, 000.00
   B. GH¢ 12,000.00
   C. GH¢ 5,500.00
   D. GH¢ 3, 000.00

4. Which of the following are laws of logarithm?

   I. $\log AB = \log A + \log B$.

   II. $\log A/B = \log A - \log B$.

   III. $\log A^n = n \log A$.

   A. I and II only
   B. I and III only
   C. II and III only
   D. I, II and III

5. Given that $\log_{10} 2 = 0.3010$ and $\log_{10} 3 = 0.4771$, evaluate $\log_{10} 600$.
   A. 0.7781
   B. 1.1761
   C. 2.0000
   D. 2.7781

6. Solve the following equation leaving the answers to four decimal places, $2^{2x} = 5^{x-3}$.
   A. 0.6990
   B. 0.8451
   C. 1.2090
   D. 1.9020

7. A man buys a bicycle at GH¢1400.00 and sells it at a loss of 15%. What is the selling priceof the cycle?
   A. GH¢1,020.00
   B. GH¢1,113.00
   C. GH¢1,190.00
   D. GH ¢1,240.00

8. In a library, the ratio of the number of storybooks to that of non-story books was 4:3 when the total number of storybooks was 1248. When some more storybooks were bought, the ratio became 5:3. How many new storybooks were bought?
   A. 312
   B. 321
   C. 936
   D. 1560

9. Three numbers are in the ratio 1/2: 2/3: 3/4. The difference between the greatest and the smallest numbers is 36. What are the three numbers?
   A. 60, 72, 96
   B. 72, 84, 96
   C. 72, 84, 108
   D. 72, 96, 108

10. There are "b" boys and "g" girls in a class. The ratio of the number of the boys to the total number of students in the class is given by …………

   A. $\dfrac{g}{b+g}$

   B. $\dfrac{b}{g}$

   C. $\dfrac{b+g}{b}$

   D. $\dfrac{b}{b+g}$

11. A salesperson at a provision store is paid GH₵80.00 per week in wages plus a 4% commission on all her sales. How much will that salesperson earn in a week in which she sold GH₵4032.00 worth of goods?
    A. 241.28
    B. 201.42
    C. 192.64
    D. 192.25

12. If a car travels at an average speed of 70 kilometers per hour for 4 hours, what will be distance, in kilometers, covered at the end of the fourth hour of travel?
    A. 17.5 kilometers
    B. 74 kilometers
    C. 174 kilometers
    D. 280 kilometers

13. What is the original price of an item if it costs GH₵12.60 following a 10% discount off the selling price?
    A. GH₵11.34
    B. GH ₵12.48
    C. GH ₵13.86
    D. GH ₵14.00

14. On a map, 1 cm represents 150 km. What is the actual distance between two cities if they are 3.5 cm apart on the map?
    A. 300km
    B. 450km
    C. 525 km
    D. 600km

15. The ratio of girls to boys in a class is 4:3. If there are 49 pupils in the class, how many are boys?
    A. 12
    B. 21
    C. 27
    D. 28.

16. Kossi is 9 months old and his sister, Peace, is 3 years old. Which of the following represents the ratio of Kossi's age to that of Peace ages?
    A. 1:4
    B. 3:9
    C. 4:1
    D. 9:3

17. Simplify the following expression: $b^5 \times b^{-3} \times b^6$.
    A. b^{-14}
    B. b^{-8}
    C. b^8
    D. b^{14}

18. Solve the following equation for x: $4^{3x} = 32$.
    A. - 5/2
    B. 5/2
    C. 2
    D. 5

19. Asi and Mariama were running at the same speed around a track. Asi started first such that when she had run 9 laps, Mariama had run 3 laps. When Mariama completed 15 laps, how many laps had Asi run?
    A. 5
    B. 21
    C. 27
    D. 45

Item 20 is a statement followed by True and False options. Read the statement carefully and indicate whether it is True or False by circling the letter of the correct option.

20. Determine whether the fractions 36/ 27 and 72/ 54 form a proportion.
    A. True
    B. False