GARISSA UNIVERSITY COLLEGE

(A Constituent College of Moi University)

UNIVERSITY EXAMINATION 2016/2017 ACADEMIC YEAR ONE SECOND SEMESTER EXAMINATION

SUPPLEMENTARY/SPECIAL EXAMINATION

SCHOOL OF EDUCATION, ARTS AND SOCIAL SCIENCES

FOR THE DEGREE OF BACHELOR OF EDUCATION (ARTS)

COURSE CODE: EPE 102

COURSE TITLE: PRIMARY MATHEMATICS

EXAMINATION DURATION: 3 HOURS

DATE: 28/09/17 **TIME: 2.00-5.00 PM**

INSTRUCTION TO CANDIDATES

- **The examination has SIX (6) questions**
- **Question ONE (1) is COMPULSORY**
- **Choose any other THREE (3) questions from the remaining FIVE (5) questions**
- **Use sketch diagrams to illustrate your answer whenever necessary**
- **Do not carry mobile phones or any other written materials in examination room**
- **Do not write on this paper**

QUESTION ONE (COMPULSORY)

(a) What is the place value and total value of the underlined digits in the numbers,

47, 397, <u>2</u>63, 402 **[2 Marks]**

(b) Suppose the date 1st July 2016 is assigned zero on the number line, what number would you assign each of the following dates

i. 18th June 2016 **[1 Mark]**

ii. 29th June 2016 **[1 Mark]**

iii. 5th July 2016 **[1 Mark]**

(c) Evaluate the following

i. $-\ 26 - (-19)$ **[1 Mark]**

ii. $(-\ 40) - (20)$ **[1Mark]**

iii. $-\ 36 - (+52)$ **[1 Mark]**

iv. $(+56) - (-36)$ **[1 Mark]**

(d) Give brief definition of the following

i. Even number **[1 Mark]**

ii. Prime number **[1 Mark]**

iii. Quotient **[1 Mark]**

(e) List all the common factor of 18 and 24. **[2 Marks]**

(f) Round off 524, 239 to the nearest one thousand. **[1 Mark]**

(g) What do you call the result of multiplying two or more numbers **[1 Mark]**

(h) Differentiate between speed and velocity. **[2 Marks]**

(i) What is a composite number? **[2 Marks]**

(j) State the divisibility test for 8 **[1 Mark]**

(k) A session started at 2200hours and lasted for 10hours. At what time did it end? Express your answer in 12hour and 24hour clock. **[2 Marks]**

(l) Express 0.7333…….. as a fraction. **[2 Marks]**

QUESTION TWO

(a) Define a fractional number and involve the terms numerator and denominator in your definition,

[3 Marks]

(b) Express 0.333…….as a fraction. **[2 Marks]**

(c) Use equivalent fractions to arrange in an ascending order:

$\frac{2}{3}, \frac{3}{4}, \frac{5}{6}, \frac{7}{8}, \frac{8}{9}$ **[2 Marks]**

(d) A pile of books is ¾ metres high and each book is ¾ cm thick. How many books are in the file?

[3 Marks]

(e) Two thirds of a loaf of bread is shared equally among four children. What fraction of the loaf does each get? **[2 Marks]**

(f) Two business partners received $\frac{5}{7}$ and $\frac{2}{7}$ of the business proceeds after a year. The businessman who received the larger share was required to spend $\frac{1}{8}$ of his share to pay all workers. If the business realized Sh.180,000, how much did the workers receive **[3 Marks]**

QUESTION THREE

(a) Use equivalent fractions to arrange the following in ascending order

$\frac{1}{2}, \frac{3}{5}, \frac{4}{7}, \frac{8}{9}, \frac{2}{3}$ **[4 Marks]**

(b) Evaluate $8\frac{1}{9} - 2\frac{3}{4} + \frac{9}{4}$ **[2 Marks]**

(c) A cyclist delivered 3 cartons weighing 3 ½ kg each, 8 parcels weighing 2 ¼ kg each and 125 sachets weighing ¼ kg each to a shop. What was the total load? **[3 Marks]**

(d) A pile of books is ¾ metres high and each book is ¾ cm thick. How many books are in the pile?

[2 Marks]

(e) The product of two numbers is $\frac{2}{7}$ one of the numbers is $\frac{8}{21}$, find the other. **[2 Marks]**

(f) A car consumers $8\frac{5}{8}$ litres of petrol to cover 51 ¾ km. what average distance does it travel for every liter. **[3 Marks]**

QUESTION FOUR

(a) Express each of the following as a single fraction in its lowest form.

i. $\frac{2a^2+ab}{ab} - \frac{3a^2-ab}{6ab}$ **[3 Marks]**

ii. $\frac{p+q}{p} - \frac{p-q}{q}$ **[3 Marks]**

(b) Simplify $\frac{ra+rb}{ma+mb}$ **[2 Marks]**

(c) Subtract the first quantity from the second giving your answer in meters

i. 95mm ; 320cm **[2 Marks]**

ii. 0.8mm ; 4m, 7mm **[2 Marks]**

(d) The area of a square is 38.44cm^2. Find the perimeter of this square. **[3 Marks]**

QUESTION FIVE

(a) A rectangular piece of cloth is (x +5) cm by (x -1)cm. a strip 2cm wide is cut off all around it. Write an expression for the area of the strip. **[3 Marks]**

(b) A father is three times as old as his son. Find an expression for the area of their ages five years ago if the son is x years old now. **[3 Marks]**

(c) Express 3.845 to two significant figures. **[1 Mark]**

(d) Add 4km, 4cm, 4mm and express your answer in meters **[2 Marks]**

(e) How many fencing posts spaced 5m apart are required to fence a rectangular shamba measuring 745m by 230m? **[3 Marks]**

(f) A rectangular mat measuring 10m by 8m covers an area inside a floor measuring 14m by 12m. Find the area not covered by the mat. **[3 Marks]**

QUESTION SIX

(a) A rectangular plot measures 100m by 200m.Find it's;

i. Perimeter **[1 Mark]**

ii. Area in M^2 **[1 Mark]**

iii. Area in ha **[2 Marks]**

(b) A floor is covered by 1800 rectangular tiles each measuring 20cm by 15cm. Find the total area of the floor in M^2 **[2 Marks]**

(c) Find the angle subtended at the centre of a circle by an arc of length 11cm if the radius of the circle is 21cm. **[3 Marks]**

(d) A wheel of diameter 14cm is rotating at 2500 revolution per minute. Express the speed of a point on the rim in cm per sec. **[2 Marks]**

(e) The cost of a rectangular manila paper of length 0.5m, width 0.3m and thickness 1mm is Sh.4 per m^2. Find the total cost of a pile of similar manila paper of height 4.4m. **[3 Marks]**

(f) In a 3000m race, one athlete took 5 minutes and 39 seconds to complete. If he finished at 4.17pm, at what time did the race start **[1 Mark]**