UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER May 2009: BED I PRIMARY

COURSE NUMBER: PEC 100

COURSE NAME: BASIC NUMERICAL SKILLS

TIME ALLOWED: 3 HOURS

TOTAL MARKS: 100

INSTRUCTIONS:

1. **THIS PAPER HAS TWO SECTIONS.**
2. **ANSWER THE QUESTION IN SECTION A. CHOOSE ANY THREE QUESTIONS FROM SECTION B.**
3. **DOCUMENTS REFERRED TO IN SOME OF THE QUESTIONS ARE ATTACHED. IF YOU CAN'T FIND THEM ASK FOR THEM.**
4. **ANY PIECE OF MATERIAL WHICH IS NOT FOR MARKING PURPOSES MUST BE CROSSED OUT CLEARLY.**

SPECIAL REQUIREMENTS: GRAPH PAPER

THIS PAPER MUST NOT BE OPENED UNTIL PERMISSION IS GIVEN BY THE INVIGILATOR

SECTION A - 52 Marks

Answer **all** questions from this section. Show your working clearly.

QUESTION 1

a. In what place is the number 4 in the following numbers

i. 40 ii. 19304 iii. 4859 (3)

b. Rearrange the digits of the number 209571 such that

i. The number has lowest value
ii. The number has the highest value
iii. 5 occupies the highest place
(3)

Question 2

2. Copy and complete the following table by expressing the numbers as indicated.

Number	2 sig. fig.	Nearest ten	Two decimal places	Nearest whole number
3077.995				
0.0948				
999.9951				

(12)

Question 3

Work out the following

a. $23 + 1.67 - 2(4.1 - 3.08)$ (4)

b. $3 \times 24 \div -6$ (2)

Question 4

Find the mean of the following numbers

14, 17, 18, 12, 8, 16, 12, 15 (3)

Question 5

Given that a = 2 and b = - 3 find

$$\frac{ab + -3b}{3}$$ (3)

Question 6

The area of a 6cm long rectangular table mat is $48cm^2$ how wide is it? Express your answer in

a. cm and ii. m (4)

Question 7

Factorize

$x^2 - 64$ (2)

Question 8

Given that set P = {1, 2, 3, 4, 5} and set Q = {2, 3, 5, 7) list

a. P∩Q b. P∪Q (6)

Question 9

Work out

a. $^2/_3 + {}^1/_2$ (3)

b) $^3/_5 \times {}^2/_3 \div {}^1/_3$ (4)

Question 10

Arrange the following fractions in order of size writing the largest first:

$^5/_{12}$ $^7/_8$ $^2/_3$ $^1/_4$ $^5/_6$ (3)

Total **52**

SECTION B - 48 marks

Answer any **three** questions from this section. Each question is worth 16 marks.
Calculators may be used.

Question 11

Here is a shopping list for the Mrs. Dube's small family in November 2008.
3kg sugar for E18.99, 6 litres milk at E12.50 per litre, 35kg soup meat at E53.00 per kg, 2 trays of eggs at E32.50 per tray and 750 ml cooking oil at E25.50 per litre.

a. Calculate

i. The total amount for the bill. (5)
ii. Her change if she paid with twenty E100 notes. (2)
iii. Her salary if she used 40% of her salary for the month for this shopping. (4)

b. Then suppose she uses the rest of her earnings for household bills and savings in the ratio 3: 2 respectively. Calculate what she spent on bills and how much she saved (5)

Question 12

a. What fraction, in its simplest terms, is:

i. 15 of 40; ii. 250 g of 2 kg (4)

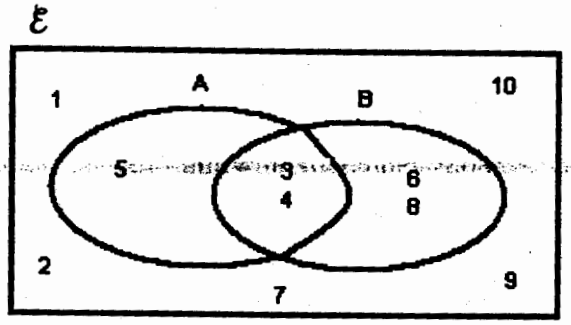
b. Work out:

i. $^3/_5 + {}^1/_2 - {}^3/_8$ ii. $5\frac{1}{2} - 3\frac{2}{5} + 5\frac{3}{4}$

iii. $^5/_6 \times {}^4/_7 \div {}^3/_4$ iv. $4\frac{2}{3} \times 1\frac{1}{2}$ (12)

Question 13

The Venn diagram below shows the sets A and B



a. List the elements of the two sets A and B. (4)
b. Find the following? (2)
   (i) $n(A \cup B)$
   (ii) $n(A \cap B)'$

c. List elements of B' (2)
d. List all the subsets of set A (8)

Question 14

a. Solve the following linear equations

   i. $8p - 24 - 2p = 6$ (3)

   ii. $\frac{2(x+5)}{6} - \frac{2x+3}{3} = 2$ (6)

b. Factories and solve the following equations

   i. $x^2 + 6x + 5 = 0$ (3)
   ii. $x^2 + 6x = 27$ (4)

Question 15

a. Draw an x and y axis. Label the x axis from – to 7 and the y axis from -3 to 8. On the same axes draw the following graphs

   A) $y = 4x - 3$ and B) $y = 2x + 1$ (10)

Mark the point where A meets B and write it coordinates. (2)

b. write the equations for the two lines that meet Line A at (4, 5) (4)

END OF PAPER