END OF TERM EXAMINATION FOR DIPLOMA IN FOOD & BEVERAGE PRODUCTION, SALES & SERVICE MANAGEMENT / DIPLOMA IN FASHION DESIGN & GARMENT MAKING

UNIT CODE: HT1101   UNIT NAME: MATHEMATICS

CLASS: HT/FB/2014 – KNEC ; HT/FD /2014 – KNEC

DATE: 23RD MARCH L 2015   TIME: $1\frac{1}{2}$ HOURS

INSTRUCTIONS

ANSWER QUESTION **ONE (COMPULSORY)** AND ANY OTHER **THREE** QUESTIONS

QUESTION ONE (20 MARKS)

(a) (i) A man earning sh. 4800 per month was given a 25% pay rise. What was his new salary?

(2 Marks)

(ii) A dress which was costing sh. 1200 now goes for sh. 960. What is the percentage decrease?

(2 Marks)

(b) (i) Find the perimeter of a triangle whose sides are x, 2x and x – 5 centimetres.

(2 Marks)

(ii) The length of a rectangle is three times its breadth. Find its perimeter if the breadth measures y centimeters.   (2 Marks)

(c) The length of a flower garden is 2 m less than twice its width. The perimeter of the garden is 32 metres. Calculate the area of the garden.

(4 Marks)

(d) Twenty US school boys decided to make a trip to Kenya for 10 days. They paid 400 US dollars each for 10 days in a Kenyan hotel. They also paid 600 US dollars each to visit some national parks. How much money in Kenya shillings did they spend in Kenya given that the exchange rate was 1 US dollar = 64.85 Kenya shillings.   (4 Marks)

(e) A trader bought an article for Sh. 200. For how much must he sell the article in order to make a profit of 20%?   (4 Marks)

QUESTION TWO (10 MARKS) OPTIONAL

(a) Given that $9^x = 27^y$, find the value of $\frac{y}{x}$. (4 Marks)

(b) In each of the questions below take π as 3.142.
   i. The circumference of a bicycle wheel is 140 cm. Find its radius.

   ii. Two wire rings of diameter 9 cm and 12 cm are cut and joined to make one large ring.

   Find the radius of this ring.

   (6 Marks)

QUESTION THREE (10 MARKS) OPTIONAL

(a) A Nissan windscreen is bought at Sh. 2500 but sold for only Sh. 2000. Calculate the percentage loss on the deal.

   (3 Marks)

(b) The following information was extracted from books of Daisy Hotels for the year ending 31st December 2011.
   Opening stock   Kshs. 160000
   Closing stock   Kshs. 90000
   Rate of stock turnover   7 times
   Calculate:
   (i)   Cost of sales; (5 Marks)
   (ii)   Purchases. (2 Marks)

QUESTION FOUR (10 MARKS) OPTIONAL

(a) Find the compound interest on Kshs. 10000 for 2 years at 12% p.a. (4 Marks)
(b) A trader marked the price of a refrigerator at which it would give him a profit of 25%.
   A customer pays Kshs. 17000 after being offered 5% discount. Calculate how much profit the trader realized. (6 Marks)

QUESTION FIVE (10 MARKS) OPTIONAL

(a) The mean score by five students in a food production test was 19. Four of the students had the following scores; 15, 18, 17 and 16. What score did the 5th student have? (4 Marks)
(b) Calculate the variance of the following data:

x	20	30	40	50
f	3	4	6	3

(6 Marks)