ELISHA FOUNDATION HIGH SCHOOL

END OF TERM TWO EXAMS 2019

S.2 MATHEMATICS

2 Hours 15 Minutes

INSTRUCTIONS:

Answer all questions.

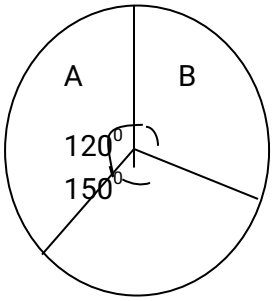
Silent non-programmable calculators may be used

Mathematical tables and graph papers are provided

SECTION A

1. Express 0.740740……..in form of $\frac{P}{Q}$ where P < Q and both P and Q are non-zero integers, hence state the values of P and Q

2. The pie chart below shows yields of beans from three fields A, B, and C.



If the total yield of beans was 300 sacks, calculate the number of sacks got from field C

3. Shs. 40,000 is invested at 18% per annum compound interest. Find the amount of the investment after 4 years

4. If a*b= 7a-4b and 8*t=32, find the value of t

5. (a). Convert 241_{ten} to base six.

   (b).If $63_{n} = 35_{ten}$ where **n** is the base, Find **n**

6. Given that n(ε) =28, $n(P^{1}nQ)$ =3, n(PnQ) =8, $n(P^{1}nQ^{1})$ =4.

(a). Represent the information on the Venn diagram.

(b). Find (i). $n(PnQ^1)$

(ii) $n(PuQ)$

7. Musa's mother had 48 eggs. She gave him $\frac{2}{3}$ of the eggs. How many did she remain with?

8. Odongo bought a T.V set at a discount of 5%. The market price of the T.V set was shs 320,000. How much did he buy the T.V set?

9. Three athletes take 50 seconds, 60 seconds and 70 seconds to complete a lap on the field. If they all start together on the starting line, after how many minutes will they be altogether at that line again?

10. Given that $2^{2y} = \frac{1}{8}$, find the value of y

SECTION B

11. (a). Solve the equation $\log\log_{10}(7x +2) - \log_{10} (x -1)$

(b). Simplify $\frac{1}{2} \log_{10} 25 - 2\log_{10} a + \log_{10} 2a^2$

(c). Given that log log p =2.476 and log Q= 1 .811, find $\log (\frac{p}{q2})$

12. (a). Given that $\log_{10} 2$ =0.3010 and $\log_{10} 3$ =0.4771, find without using tables or a calculator the value of

(i). $\log_{10} 72$

(ii). x if $\log_{10} x$ =1.6020Type equation here.

(b). Evaluate $\sqrt[3]{\frac{0.8714 \times 61.4}{(0.552)^2}}$ using mathematical tables

13. (a). The table below shows the number of goals scored by a team in a series of football matches.

Number of matches	3	4	1	x	2
Number of goals	1	2	3	4	5

If the mean number of goals is 3, find x

(b). A class of 40 pupils was given a spelling test and the marks they scored were as shown in the table below.

Mark	1	2	3	4	5	6	7	8	9	10
Frequency	0	2	3	2	4	7	10	6	3	3

(i). What is the modal frequency

(ii). Calculate the mean mark

(iii). On the same graph, draw a combined histogram and frequency polygon for the above data

14. (a). The relation x $\rightarrow$ 2x-1 is defined on the set $\{0,1,2,3,4\}$. Draw an arrow diagram to represent the relation

(b). Given that T=$\{2,5,6,8,9,10,12,13\}$. Illustrate on papygram the relations

(i). “is greater than by 3”

(ii). “is a factor of”

15. (a). Solve $2(x-2) - 5x \geq 8$ and illustrate the solution on the number line.

(b). By shading the unwanted region, represent $x-y \geq 0$ on the graph.

END

WISHING YOU SUCCESS

Tr. Ean Nasasira

(Subject teacher)