NELSON MANDELA SECONDARY SCHOOL – MASAKA

END OF TERM I1 EXAMINATIONS 2025

S.5 SUBSIDIARY MATHEMATICS

2HOURS: 30MINUTES

Instructions

- This paper is made up of three items in two sections A and B.
- Section A contains one item which is compulsory.
- Respond to only one item on section B.
- Response to each item must be started on a fresh page
- All the responses are to be presented on the answer booklets given.
- Graph papers are provided.
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SECTION A

Item 1

Mr. Magambo is a known poultry farmer at Waggwa village. He rears both local and exotic breeds of poultry birds. I was enquiring from him on a phone call when he was accidentally knocked down to death. According to the information I had so far got from him, his project had started with only 900 birds including both local and exotic breeds. However then, the number had risen up to 3700birds where the population of the local breeds was three times and that of exotic breeds was five times the original number he started with. Since I was the root cause of the accident, I was concerned with catering for Mr. Magambo's projects and children but surprisingly, I found no any bird in the poultry house after the burial rituals. I arrested the farm manager and he finally accepted to refund for the whole poultry farm in terms of cash however we don't know how many local and exotic breeds were in the house yet they cost differently on the market. A local bird costs 10,000/= while an exotic one costs 15,000/=. The two agricultural analysts I brought managed to give me the same information about the total amount I should be given but what surprised me; one used a matrix while the other used a different method!

Task

Help and show me how each analyst reached the correct information on,

a) The number of birds in each breed. 15scores
b) Total amount of money the manager had to pay as a refund. 05scores

SECTION B

Item 2

A certain leader organized a sports tournament in Kyabakuza parish in which many football and Ludo teams participated. Football teams played in two groups A and B. The win of any team in group A was independent of the one of any team in group B. At semi-final level, Kyabakuza United (K) was to play Kyabakuza Market (M) in group A while Boda Boda (B) was to play Kosovo (V) in group B.

The probability that Kyabakuza United would win at the semifinals was 0.60 and and its draw is probably 0.18. The probability that Kosovo would win Boda Boda was 0.23 and for Kosovo to win was probably 0.70.

From the pitch, Ludo competition followed where each one of the two leading teams A and B had to set a representative player to throw either two dice or a die and a coin. A player had to say out his expected outcome before the throw, the team whose player had the highest expectations achieved would win fifty thousand shillings divided by the probability outcome. Team A representative rolled two dice in an expectation of a double digit while team B representative threw a die and a coin at once expecting to score a prime number and a tail.

A boda boda man was sent to a nearby shop to buy a crate of soda for the players. He was instructed to mix 8bottles of mountain dew (D) and the rest of Mirinda fruity (F). On his way back, the crate fell down and one bottle shuttered on spot. The boda boda man stopped to reload the crate when a second bottle burst from the crate. The man prayed that mirinda fruity would break because at the shop, mountain dew was over.

Task

a) Assuming that a draw is equivalent to both teams win, Determine the probability that
i) Kyabakuza Market would win Kyabakuza United in group A. also workout the probability that the two teams in group B draw. 3scores
ii) Kyabakuza United and Kosovo win in the semifinals. 3scores
iii) Kyabakuza United wins or Kosovo wins. 3scores
iv) Kyabakuza market wins provided that Kosovo wins. 3scores
v) The match for group B is not played on the prescribed day. 3scores

b) According to the Ludo competitions, Both team players A and B achieved their expectations. Which team player won and how much money did he win for the team? 6scores

c) Construct the probability tree diagram to obtain the sample space of the two bottles that were broken in the crate the boda boda rider was taking. Use the tree diagram to determine the probability that

i) The bottle of soda which first got broken was for Mountain dew. 3scores

ii) The bottle that burst was of Mountain dew. 3scores

iii) Both the broken bottles were of mountain dew. 3scores

Item 3

There are ten students in a the subsidiary mathematics class ant Nelman S.S. The lass did six test items before End of term I 2025 and the teacher recorded the score results from each test item before returning the scripts to the students. The test results were used by the teacher to formulate and present a statistical academic report to the head teacher. In his record book, the teacher had assembled the score results as follows.

	Scores									
Test 1	12	80	10	61	32	91	16	80	05	86
Test 2	03	72	10	60	17	87	40	61	39	93
Test 3	28	12	37	56	12	71	32	41	27	77
Test 4	21	67	11	49	18	65	36	32	40	56
Test 5	15	55	32	18	21	83	10	16	05	48
Test 6	09	50	20	40	30	87	39	67	43	25

Task

a) Show how the teacher displayed the data in a frequency distribution table. 05scores

b) How did the teacher use a frequency distribution table to determine the

i) Modal class? 03scores

ii) Modal score? 03scores

iii) Average score? 03scores

iv) Standard rate at which the scores deviate? 03scores

c) How did the teacher use an ogive to estimate the 07scores

i) Median score? 03scores

ii) Number of learners who were able to score between 25% and 75% 03scores

END