

2819/102
FOOD AND BEVERAGE PRODUCTION,
NUTRITION AND MATHEMATICS
Oct./Nov. 2022
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN CATERING AND ACCOMMODATION MANAGEMENT

MODULE I

FOOD AND BEVERAGE PRODUCTION, NUTRITION AND MATHEMATICS

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

*Non-programmable silent electronic calculator;
KNEC mathematical tables.*

*This paper consists of **THREE** sections; A, B and C.*

*Answer **ALL** questions in sections A and B.*

*Answer **question 21 (compulsory)** and any other **TWO** questions from section C.*

Answers to the questions must be written in the answer booklet provided.

Candidates should answer the questions in English.

This paper consists of 4 printed pages.

**Candidates should check the question paper to ascertain that
all the pages are printed as indicated and that no questions are missing.**

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Turn over

SECTION A: MATHEMATICS (30 marks)

Answer ALL the questions in this section.

1. Evaluate $(30 + (-74)) \times (81 - (-19))$. (3 marks)

2. A cake is made up of wheat flour, sugar and eggs in the ratio of 15:3:2. Determine the percentage representation of each food item in the cake. (3 marks)

3. Calculate the area of a circle whose circumference is 176 mm. Express your answer to the nearest whole number. (3 marks)

4. Solve the equation:

$$\frac{x}{3} - \frac{x}{5} = 4$$
 (3 marks)

5. The following are points scored by 12 teams in a competition.

2, 3, 7, 5, 5, 13, 17, 4, 8, 3, 4, 3.

Determine:

(i) the mode; (1 mark)

(ii) the mean. (2 marks)

6. A tourist from UK converted £ 3000 into Kenyan currency at the rate of £ 1 = Ksh 120.80 at that time. While in the country he spent $\frac{2}{3}$ of the money and changed the remaining money into sterling pounds (£) at the rate of £ 1 = Ksh 122.00. Determine how much money in sterling pounds (£) he received. (3 marks)

7. Evaluate

$$\frac{24 \times 9! \times 6!}{15 \times 7!3!}$$
 (3 marks)

8. Figure 1 shows a pie-chart representing the number of students admitted in different courses in a college.

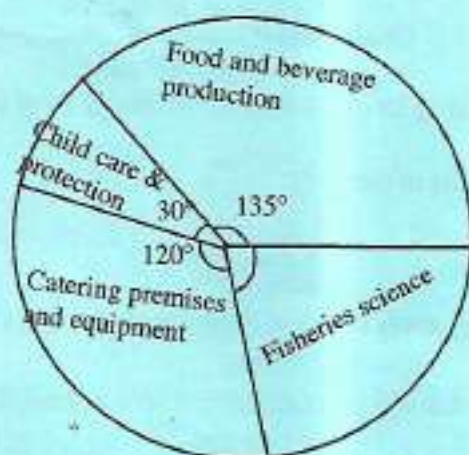


Fig. 1

- If there were 6000 students admitted in the college, determine the number of students admitted for fisheries sciences. (3 marks)
9. Determine the standard deviation for the set of numbers
1, 4, 3, 2, 5, 3. (3 marks)
10. A group of students carrying out a research on food contamination opted to use sampling method. State three benefits the students will gain from using this method. (3 marks)

SECTION B: FOOD SCIENCE AND NUTRITION (30 marks)

Answer ALL the questions in this section.

11. Highlight three symptoms of pellagra. (3 marks)
12. Enumerate three suitable materials for freezing food. (3 marks)
13. Identify three bacteria that cause food poisoning. (3 marks)
14. Highlight three modern methods of food preservation. (3 marks)
15. State three advantages of using convenience foods. (3 marks)
16. Highlight three uses of microorganisms in food. (3 marks)

17. State **three** advantages of eating a well balanced diet. (3 marks)
18. Highlight **three** characteristics of spoiled food. (3 marks)
19. Identify **three** ways of preventing food contamination during food preparation. (3 marks)
20. State **three** functions of proteins in the body. (3 marks)

SECTION C: FOOD AND BEVERAGE PRODUCTION (40 marks)

Answer Question 21(compulsory) and any other TWO questions from this section.

21. (a) Highlight **three** reasons for preparing work timetables for staff in the kitchen. (3 marks)
- (b) State **four** points to note when selecting beef for cooking. (4 marks)
- (c) Describe **three** types of soup. (3 marks)
22. (a) Discuss **three** reasons for marinating foods. (6 marks)
- (b) State **three** advantages of each of the following cooking methods:
- (i) braising; (3 marks)
- (ii) baking. (3 marks)
- (c) Explain **three** reasons for cooking food. (3 marks)
23. (a) Explain **three** rules for cooking pastas. (6 marks)
- (b) Describe each of the following methods of food preservation:
- (i) smoking; (3 marks)
- (ii) freezing; (3 marks)
- (iii) salting. (3 marks)
24. (a) Enumerate **six** precautions taken when loading a refrigerator. (6 marks)
- (b) Outline the procedure for treating a staff member who sustains a burn or a scald in the kitchen. (9 marks)

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