



THE KENYA POLYTECHNIC

DEPARTMENT OF INSTITUTIONAL MANAGEMENT

HIGHER DIPLOMA IN CATERING & ACCOMMODATION

MANAGEMENT

END OF YEAR I EXAMINATIONS

NOVEMBER 2006

APPLIED SCIENCE

3 HOURS

Instructions to candidates:

This paper consists of FOUR sections, A B, C and D.

Answer EIGHT questions, choosing AT LEAST TWO from each section.

Part I of each section is COMPULSORY.

Answer each section on a separate booklet.

The maximum marks for each part of a question are as shown.

Tables provided will be collected after the exam

This paper consists of 4 printed pages

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SECTION A: MICROBIOLOGY

Part 1: Compulsory

1. (a) Define the following terms:
 - (i) Internal infection of foods. (ii) Aerobes (2 marks)
- (b) Identify FOUR advantages of microorganisms to man. (2 marks)
- (c) Explain the reproductive process of bacteria. (6 marks)

Part 2: *Answer any ONE questions from this section*

2. Microorganisms are spread through different mediums. With the help of a chart discuss any TWO. (15 marks)
3. Write brief notes on either staphylococcus or salmonella under the following headings:
 - (a) Classification (b) Occurrence
 - (c) Foods likely to be infested (d) Symptoms
 - (e) Prevention (15 marks)

SECTION B: DIET THERAPY

Part 1: Compulsory

4. (a) Define the following terms:
 - (i) Renal failure (ii) Enteral feeding (2 marks)
- (b) Explain the types, causes, symptoms and treatment of hepatitis. (8 marks)

Part 2: *Answer any ONE questions from this section*

5. (a) Diabetes is becoming a major health concern in Kenya. As a dietician, you have been asked by Ministry of Health to prepare a speech enumerating on the causes and the advice on prevention and treatment you would provide. Make your notes. (9 marks)
6. (a) Explain the dietary modifications of a person suffering from constipation.

(5 marks)

(b) A person comes to you with a blood pressure reading of 180/120.

(i) Comment on the reading (2 marks)

(ii) Suggest possible reasons for the reading. (3 marks)

(iii) Explain any necessary drug and diet therapy. (5 marks)

SECTION C: FOOD MATERIAL SCIENCE

Part 1: Compulsory

7. Giving examples, highlight and briefly describe THREE causes of variation in composition of milk. (10 marks)

Part 2: *Answer any ONE questions from this section*

8. Discuss fats and oils under the following headings:

(i) TWO functions (2 marks)

(ii) Decomposition (6 marks)

(iii) TWO uses in the food industry (2 marks)

(iv) The hydrogenation process (5 marks)

9. Write notes on the changes that occur during the making and baking of bread. (15 marks)

SECTION D: NUTRITION

Part 1: Compulsory

10. (a) Define the following terms:

(i) Cellular nutrition (ii) Selective absorption

(iii) Glycolysis (iv) Metabolism (4 marks)

(b) Distinguish between active transport and facilitated diffusion as different mechanisms of nutrient absorption. (6 marks)

Part 2: *Answer any ONE questions from this section*

11. (a) Anthropometric assessment is one of the methods used for assessing nutritional status. Enumerate on its means and importance. (2 marks)
- (b) Explain the term 'BMI' and its uses. (2 marks)
- (c) Calculate the BMI of a person whose height is 5 feet 3 inches and has a weight of 78 kilograms. (11 marks)
12. (a) Define the term "exchange list" in meal planning and name any FOUR exchange lists. (3 marks)
- (b) Using the food composition tables provided, calculate the energy, protein and iron content of the following foods:
- | | |
|-----------------|--------------------------|
| (i) 150g beef | (ii) 25g natural yoghurt |
| (iii) 200g rice | (iv) 100g peas |
| (v) 100g banana | (12 marks) |