

**CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)
NORTHERN ZONE JOINT EXAMINATIONS SYNDICATE (NZ-JES)**



**FORM SIX PRE-NATIONAL EXAMINATIONS 2026
155/2 FOOD AND HUMAN NUTRITION 2
MARKING SCHEME**

SECTION A (60 MARKS)

1.a) The potential sources of error in anthropometric assessment.

1) Instrumental-Related Errors e.g. Poor calibrant (weighing scale not zeroed), low quality and inappropriate equipment, worn or damaged tools and incorrect placement of equipment.

2) Observer (measurer) errors e.g. Improper technique (wrong landmark identification) and same measurer inconsistent over time).

3) Subject-related Errors e.g. incorrect posture (slouching during height measurement), movement during measurement, clothing or footwear not removed, hydration status changes and muscle tension during circumference or skinfold measures.

4. Environmental factors e.g. uneven flooring, room temperature which may affect skinfold compressibility), poor lighting and lack of privacy causing subject discomfort or posture change.

5. Procedural errors e.g. Failure to follow standardized protocols (WHO Or ISAK guidelines).

6. Recording and Data handling Errors e.g. Data entry errors, transcription mistakes, unit conversion errors (cm vs inches vs lbs) and misclassification.

b) Challenges which can be faced when taking height and weight measurement.

Challenges in measuring height

- Incorrect posture
- Improper equipment setup
- Hairstyle and headgear
- Footwear not removed
- Subject movement
- Difficulty in special cases e.g. inability to stand upright.

Challenges in measuring weight

- Improper calibration of scale (scale not zeroed before use)
- Uneven or soft surface
- Clothing and accessories (heavy clothing, shoes, belts, phones or wallets increases weight.
- Subject movement
- Recent food or fluid intake
- Hydration status.

2. advice on foods and drinks for a pregnant woman to take.

Foods to consume

-Fruits and vegetables. These foods are rich in vitamins, minerals and fiber. E.g orange, mangoes, bananas, spinach, broccoli, avocado, carrots. They provide vitamin Folate and antioxidants.

-Protein rich foods

They are essential for baby's growth and tissue development. E. g eggs, meat, fish, milk, chicken, nuts and seed and beans.

-Whole grains foods, they provide energy and fiber e.g Brown rice, whole wheat bread, oats and millet.

4. Iron-rich food

They help in synthesis of blood and preventing anemia such as red meat, liver (in small amounts), spinach, beans and fortified cereals.

5. calcium rich foods

For baby's bones and teeth development of the foods are milk, yogurt, cheese, sardines and green leafy vegetables.

6. folate (Folic Acid) Foods

They prevent birth defects e.g. dark green vegetables, beans, citrus fruits and fortified grains.

Healthy drinks to consume

- plenty of clean water (8-10 glasses daily)
- fresh fruit juices (Not too much sugar)
- Milk
- Smoothies

Foods and drinks to avoid

- Alcohol
- cigarettes
- too much caffeine (limit tea/coffee)
- raw or undercooked meat and eggs
- unpasteurized milk
- high-mercury fish
- excess junk food and sugary drinks

3.i) Rules for handling raw and cooked foods to prevent cross contamination

- Avoid keeping together raw and cooked food during preparation and serving.
- Do not mix utensils used for cooked food and raw food.
- store separate raw and cooked food in refrigerator.
- cover well cooked food before storage.

- follow both personal and kitchen hygiene rule when handling food.
- Store raw food in an appropriate storage condition

ii)uses of microorganism in food processing

- To destroy another harmful microorganism
- can be used to manufacture/produce a certain food product.
- to add flavor or aroma in food products and make them more interesting.
- to reduce toxic substances from food.

4. a). Here are five objectives of nutrition rehabilitation program.

- i. Restore normal nutritional status
 - To treat and correct moderate and severe acute malnutrition (MAM / SAM)
 - Promote adequate weight gain and improve overall physical health
- ii. Reduce child morbidity and mortality
 - Prevent complications related to malnutrition such as infections, anemia, and dehydration
 - Lower death rates among vulnerable groups especially children under five.
- iii. Promote catch-up growth and development.
 - support proper physical growth (weight, height, MUAC)
 - improve cognitive and developmental outcome in children.
- iv. Educate and empower caregivers/ mothers.
 - Teach mother/ caregivers about balanced diets, breast feeding, complementary feeding, hygiene and food preparation.
 - Encourage sustainable feeding practices using locally available foods.
- v. Prevent relapse of malnutrition
 - Provide follow-up care and monitoring after discharge.
 - Link families to community nutrition programs and health services to ensure long-term food security and well-being.

b) indicators of a Successful Nutrition Rehabilitation programme

- Disappearance of severe cases of undernutrition
- Improvement of growth curve

- Continuation of the improvement of child health after discharge from the nutrition rehabilitation center.
- Behavioral improvement
- Acceptance of the programme by the community
- Improvement of living standard of people by changing the lifestyle of people by not following bad traditions and customs.

5. Four economic importance of catering.

- It is a source of employment
- Support other industries
- Support tourism business by providing food, drinks and accommodation

Social contribution of catering

- Some catering establishment operate as non-profit organizations to provide food and shelter to the disadvantaged people who are sick, old, frail or homeless.
- In the families both parents work, and children are after school commitments, it serves individuals time and energy to purchase take away home or organize functions outside the house for event or celebration rather than prepare some or all their meals.
- Some clubs such as sporting, and service club operate ventures such as club canteen to earn income. The money earned is used within the club to purchase equipment, expand facilities, to find other services and to support other groups or community projects.

6. importance points to include in nutrition education for reduction of all forms of undernutrition in children.

- Early initiation of breastfeeding
- Timely introduction of complementary feeding
- Adequate meal frequency according to age
- Increase portion size according to age

- Demonstrating the proper preparation, cooking, processing and preservation procedures of home grown fruits and vegetables to preserve their nutritional values and ensure their availability throughout the year.
- Promoting hygiene and sanitation
- Encouraging families to send they' re under five children' s clinics for immunization and growth monitoring and early detection of health problems.

SECTION B (40 marks)

7.i) causes of stunting (5 points)

- Inadequate nutrition
- Micronutrient deficiencies
- Recurrent infections and illnesses
- Poor water, sanitation and hygiene
- poor maternal health and care
- Poverty and food insecurity
- Inadequate childcare practices
- Social and cultural factors

ii)effect of stunting (5 points)

- Physical effects
 - Short stature (reduced adult height)
 - Delayed physical growth
 - Delayed puberty
- Impaired brain development
- Poor school performance
- Increased risk of chronic diseases in adulthood
- Reduced economic productivity
- Increased mortality risk

iii) roles of diet in preventing stunting (3 points)

- diverse diets provide essential vitamins and minerals needed for growth.
- adequate protein help in tissue building and linear growth
- proper diet reduces infections that contribute to growth faltering.

iv) The best feeding practices to improve nutrition status of children (five points)

- Early initiation of breastfeeding
- Exclusive breastfeeding (0-6 months)
- Continued breastfeeding up to 2 years and beyond
- Timely introduction of complementary foods at 6 months
- Ensure dietary diversity
- Adequate meal frequency
- Use nutrient rich foods
- Safe food preparation and hygiene
- Feeding during and after illness

**1 mark for any relevant introduction and 1 mark for conclusion
@ 1 mark = 18 marks**

Total 20 marks.

8. six indicators which are used to assess nutritional status of people

i) Food crises - is situation where many people lack reliable access to sufficient, safe and nutritious food leading to poor nutritional status.

ii) protein energy malnutrition

iii) caring capacity

iv) Undernutrition infection complex

v) Micro nutrient deficiencies

iv) Rate of non-communicable chronic diseases

**1 mark for any relevant introduction and 1 mark for conclusion
@ 3 marks =18 marks**

Total 20 marks.

9.Social -cultural and economic factors to be considered in planning of menu

- a) Catering equipment and utensils available.
- b) Staff knowledge and skill on food preparation and service
- c) Skill on the food storage, processing and preservation
- d)Time and energy available
- e) Type of customers
- f) The spending power of the customers
- g) Nutritional requirements of different individuals and groups of people
- h) Food fads (favorable foods/Popular fashions in food consumption
 - i) Season of the year
 - j) special occasions
- k) Cost factor

any nine points

**1 mark for any relevant introduction and 1 mark for conclusion
@ 2 marks =18 marks**

Total 20 marks.