



CHRISTIAN SOCIAL SERVICES COMMISSION

An Ecumenical Body of Tanzania Episcopal Conference and Christian Council of Tanzania

P.O. Box 9433, Dar es Salaam, Tanzania

CSSC-SOUTHERN ZONE, FORM FOUR JOINT EXAMINATION 2024

033/2A BIOLOGY 2B

(ACTUAL PRACTICAL)

AUGUST 2024

MARKING SCHEME

1. From the experiment conducted by using solution B

- The aim of the experiment was to test the food nutrients present in solution B – **(02 mark)**
- Heating increases energy to the reacting molecules/ to increase the rate of chemical reaction – **(02 mark)**
- The observation was as follows – **(01 mark @ = 04 marks)**

Test tube	Observation
1	Purple colour observed
2	Brown colour of iodine solution retained
3	A series of colour change observed to change from blue, green, yellow, orange and finally to brick red
4	Red colour of sudan III solution retained

- The conclusion is that in solution B there was PROTEIN and REDUCING SUGAR – **(02 marks)**
- The functions of – **(0.75 mark @ = 03 marks)**
 - Protein
 - Used for growth and body repair
 - It is a structural component of a cell
 - Reducing sugar
 - Provides energy
 - It is component of cell
- The source of – **(01 mark @ = 02marks)**
 - Protein; - beans, milk, liver, peas, fish etc.
 - Reducing sugar; - carrots, onions, milk, sugar cane etc.
 - The application of the knowledge obtained from the experiment are; - - **(01 mark @ = 01 marks)**

- Preparation of balanced diet
- Training parents on the food to feed their growing children at different levels
- Maintaining our health through healthy eating

(iv) The problems facing children are such as – (01 mark @ = 09 marks)

a) Kwashiorkor

- caused by shortage of protein in diet
- treatment; - feeding a child with some food rich in proteins such as beans, fish, eggs, milk and so on

b) marasmus

- caused by failure to meet balanced diet
- treatment; - feed a child with balanced diet

c) rickets

- caused by lack of vitamin D and calcium minerals in diet
- treatment; - feed a child with food rich in vitamin D and calcium, exposing a child to morning sunlight

2. (i) common name of the specimen 0.5@1=2.5 marks

Specimen	Common name
S ₁	Hibiscus flower
S ₂	Tape worm
S ₃	Frog
S ₄	Bird
S ₅	Fern plant

(ii) classification of the specimen S₃ and S₄ to the kingdom level 0.5@ =2marks

Specimen	Kingdom	Phylum/division
S ₃	Animalia	Chordata
S ₄	Plantae	Filicinophyta

(iii) Adaptation of S₄ to its mode of life 1@=4marks

- Have wings for flying
- Have feather for regulation of body temperature
- Have light bone to reduce body weight
- Has scales on their legs for protection

(iv) 1@=3marks

- Development dry skin to prevent desiccation
- Development of reproductive method (undergo internal fertilization)
- Should lay eggs with hard shells

(v) Heading 0.5marks, drawing 1.5marks, labeling 1=3marks

(vi) Bird/ insect 1.5marks

(vii)1@=3marks

- Have bright coloured petal to attract insects/ birds
- They produce scent to attract pollinator
- They produce sweet fluid called nectar that attract pollinator

(viii)

- Parasitic mode of feeding 1marks

This is a mode of feeding whereby an organism depend to another organism for food and shelter and some time may harm the host where it lives 1marks

(ix) 1@=4marks

- They are source of food to another organism
- They are used as ornaments at home and offices
- They are source of fossil fuel after decomposition
- They balance carbon dioxide concentration in the atmosphere