

TANZANIA HEADS OF ISLAMIC SCHOOL COUNCIL (TAHISCO)

INTER ISLAMIC MOCK EXAMINATION

BIOLOGY 3A

(ACTUAL PRACTICAL)

(For both school Private candidates)

MARKING SCHEME 2026

1. (a) The diagram of the dissected specimen M showing urinal genital system with nine labelled parts.

(i)

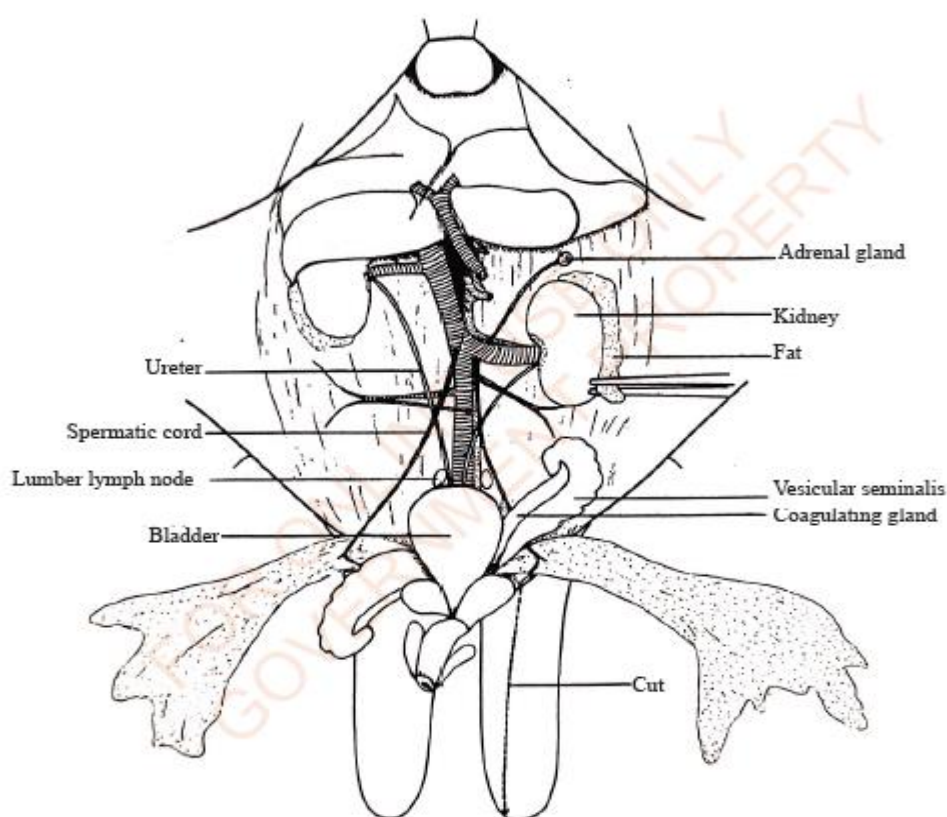


Figure 3.74 The urinogenital system of a male mouse

CA = 00 ½

CD = 01

CL = any 9 parts @ 00 ½ = 04 ½ marks

- (ii)
- Bladder – store urine
 - Testis - Formation of gamete
 - Kidney – Regulation of pH
 - Ureter - Pass urine from kidney to bladder
 - Penis - Deposited sperm
 - - Pass out urine

Any 05 part @ 00 ½ mark = 02 ½ mark

(b) Feature of specimen M as a mammal

(i) External features

- Has furs
- Penis always present in male
- Female has uterus where young one develop
- They have sweating glands for cooling effects
- Nipples arising from mammary glands
- Pinnae (singular pinna)
- Post anal tail
- Pent dactyl limbs
- Mystachial and whiskers

(ii) Internal features

- Possession of diagram

Any 05 points @ 00 ½ mark = 02 ½ mark

(c) Organ is kidney

00 ½ mark

Function of the kidney

- Help in regulation of Red blood cell by produce a protein called Erythropoiesis which stimulate liver to make RBC
- Help in water balance in a body since through its nephron it is where most of water were reabsorbed or conserved
- Excretion of nitrogenous waste such as urea
- Help in synthesis of vitamin D
- Help to regulate blood pH
- Help to regulate ionic composition

Any 05 points @ 00 ½ mark = 02 ½ marks

(d) (i) Nitrogen waste excreted is UREA through its
00 ½ mark

(ii) Terrestrial mammal excreted urea because so conserve water and to avoid them from problem of dehydration since

- Urea it is less toxic and slightly soluble so it will require little water to be excreted hence it commonly nitrogenous waste excreted by mammal like specimen M. **00 ½ mark**

2. The table showing experiment report

Test tubes	Temperature (°C)	Other Observation
1.	29	Weak effervescence evolved
2.	31	Strong effervescence evolved
3.	26	No effervescence evolved

@ 01.5 = 03 marks

- (a) The substance present in specimen N is peroxidase **01mark**
- (b) The sub-cellular unit is peroxisome **01mark**
- (c) The biological process is detoxification **01 mark**
- (d) The purpose of:
- The purpose of grinding specimen N with fine sand was for reduction of volume ratio leading into an increase in its surface area **00 ½ mark**
 - The purpose of boiling specimen N was denature the active sites of peroxides, as it was conformed by observing no effervescence on addition of hydrogen peroxide into test tube 3. **00 ½ mark**
- (e) The balanced equation between peroxidase and hydrogen peroxide.

$$2\text{H}_2\text{O}_2 + \text{Peroxidase} \rightleftharpoons 2\text{H}_2\text{O} + \text{O}_2$$
 01mark
- (f) Oxygen gas was produced from the reaction **01 mark**
- (g) In living organisms most of tissues, organs and cells produce poisonous substances from their metabolic activities which when allowed accumulating may lead into death of such organism. Some vital organs such as liver contain special sub-cellular organ such as peroxisome that produce peroxide essential for detoxification of harmful gases or toxic substance like hydrogen peroxide into useful substances. **(02 marks)**
- (h) Type of reaction from the energetics/thermodynamics was EXOTHERMIC since it involves temperature is given out to the surrounding. **(01mark)**
- (i) Possible uses of peroxidase enzyme industries
- Synthesis of antibiotics
 - Synthesis of antivenom
 - Synthesis of artificial immune (vaccine)
 - Manufacture of soap or detergents
- Any 3 points @ 01 mark = 03marks**

3. (a) Identification of specimens

SPECIMEN	COMMON NAME
S	Moss plant
F	Cactus plant
Y	Millipede
X	Bee

@ 00 ½ mark = 02 marks

(b) Classification of specimens

SPECIMEN	KINGDOM	PHYLUM/DIVISION	CLASS
S	Plantae	Bryophyta	Bryopsida
F	Plantae	Magnoliophyta	Magnoliopsida
Y	Animalia	Arthropoda	Diplopoda
X	Animalia	Arthropoda	Insecta

@ 00 ½ mark = 06 marks

(c) Adaptation of specimen S (Moss plant)

- They have limited height (they are small) to overcome problems associated with lack of vascular tissues, water and mineral salt can move by capillarity in short stem.
- They possess rhizoid for anchorage on soil as well as absorption of water and mineral salts.

Any two points @ 01 mark = 02 marks

Adaptation of specimen F (Cactus)

- Cactus plant have wide and deep roots that absorb rain water and reach the underground water.
- Have leaves that are reduced to spines to reduce water loss through transpiration.

Any two points @ 01 mark = 02 marks

- (d) (i) Both are plant, belong to Kingdom plantae
- (ii) Have leaves that are reduced to spines to reduce water loss through transpiration

Any two points @ 01 mark = 02 marks

- (e) Bee attracted to bright flower and feed nectar, when they feed its body collect pollen and carry it to other plants. So it help in pollination of flowering plants. **01mark**