TANZANIA HEADS OF ISLAMIC SCHOOLS COUNCIL

FORM FOUR INTER ISLAMIC MOCK EXAMINATION

BIOLOGY 1

MARKING SCHEME AUGUST, 2026

1. Multiple choice question

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
D	B	C	C	A	E	E	C	B	E

10 marks @ 01 mark

2. Matching item question

(i)	(ii)	(iii)	(iv)	(v)	(vi)
E	A	B	F	C	G

06 marks @01 mark

3. (a) Coordination and irritability

(i) Cerebellum **01 mark**

(ii) Functions of cerebellum include:

- Body balance and posture
- Muscles movement

Any two marks @ 00 1 mark = 02

(iii) Loss of muscles coordination (stretching) **02 mark**

(b) Plant response (coordination in plants)

(i) Phototropism **01 mark**

(ii) Auxin accumulates in the shaded side whereby the cell elongate more on the shaded side, lead to plants bend toward light **02 marks**

(iii) Importance of phototropism

- It drives the plant short toward light for photosynthesis to take place
- The tight gained through phototropism response, influences the opening of stomata pores, this is important for gaseous exchange.
- It maximizes light absorption

Any one (1) points @ 01 mark = 03 marks

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4. Evaluating seed dormancy (controlled by embryo and environmental condition)

- Factors causing dormancy
  Embryo conditions
  (i) Immature embryo
  (ii) Hardness of seed coat
  (iii) Presence of growth inhibitors in seed

  Environmental conditions
  (i) Lack of water
  (ii) Unsuitable temperature
  (iii) Lack of oxygen
  Any five points @ 01 mark = 05 marks
- Four ways to overcome dormancy
  (i) Soaking the seed water to soften the seed coat and remove inhibitors
  (ii) Mechanical abrasion such as scratching to soften the speed good
  (iii) Burning the speed to soften the testa
  (iv) Soaking the seed in alcohol or concentrated acid for a certain period of time
  (v) Passing the seed through the gut of the specific animal in which the hard coat is softened and inhibitors are removed
  Any four (4) points @ 01 mark = 04 marks

5. Six parts of urinary system and how the work

(i) Kidneys – filter blood, remove urea, salts, excess water to form urine

(ii) Blood vessels (Aorta, Venacara, Renal rotary and renal vein)

(iii) Ureter – Tubes carrying urine kidneys to bladder

(iv) Urinary bladder – Temporarily stores urine

(v) Urethra – Passes urine outside the body during urination

(vi) Sphincter muscles – Prevents the bladder from emptying the urine until they reach certain level.

6. Differences between two processes in gaseous exchange (inhalation exhalation)

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INHALATION	EXHALATION
External intercoastal muscles contract	External intercostal muscles relax
Internal intercoastal muscles relax	Internal intercostal muscles contrast
The ribcage moves outwards and upwards	The ribcage moves downwards and inwards
The diaphragm contracts and flatten	Diaphragm relaxes and become domeshaped
The volume of thoracic cavity increases	Volume of thoracic cavity decreases
Air pressure in the thoracic cavity decreases	Air pressure in the thoracic cavity increases
Air enters the alveoli through the nostrils, pharynx, glottis, trachea, bronchiole, and finally alveoli	Air is forced out of the alveoli through the bronchioles, trachea, glottis, pharynx and finally nostrils

Any six (6) points @ 01 ½ marks = 09 marks

7. Albinism inheritance showing both parents responsible solution.

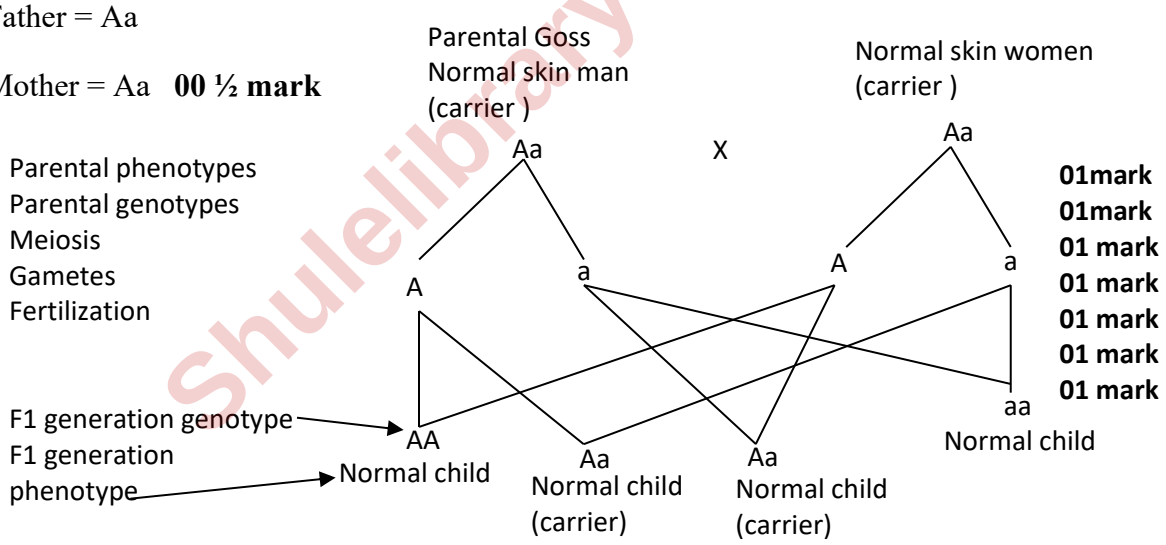
Let A be dominant allel for normal skins pigment

Let a be recessive allele for albinism **00 ½ mark**

If child is albino = aa, both parents must contribute a recessive gene. Parents are carriers (heterogeneous). **00 ½ mark**

Father = Aa

Mother = Aa **00 ½ mark**



Results:

AA = Normal child

Aa = Normal child (carrier)

Aa = Normal child (carrier)

aa = Albino child

Conclusion: Both parents contributed a recessive gene. Therefore, both are equally responsible for the child's genotype and phenotype **01 mark**

8. Evidence supporting theory of evolution

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(i) Fossil Records

Fossil are preserved remains or traces of ancient organisms found in rocks. They show that organisms living today are different from those that lived long ago. Fossils also Shao gradual changes from simple to complex forms.

Example: Fossils of horse shows change from small multi-toed ancestors to the modern one-toed horse.

(ii) Comparative Embryology

Embryology is the study of embryos. Embryos of different vertebrates look similar in early stages, suggesting they came from common ancestors.

Example: Human, fish, bird and rabbit embryos all have tails and gill slits at early stages.

(iii) Comparative Anatomy

This compares body structures of organisms. Similar structures with different functions (homologous) organs) and cats have the same bone arrangement but perform different functions.

(iv) Comparative Physiology

Different organisms have similar body processes, showing related origin. Example: Respiration, digestion, and excretion occar in similar ways in mammals such as humans, goat and dogs.

(v) Cell Biology/ Biochemstry

All living organisms are made of cells and have similar cell structure and chemical components. This indicates that life originated from common ancestral cells.

Example: Both plant and animal cells contain cytoplasm, cell membrane and DNA

(vi) Continental Drift

Continents were all joined together and later separated. Similar fossils found on different continents suggest organisms existed before the land mass split.

Example: Fossils of Mesosaurus are found in both south America and Africa.

Any three points @ 03 marks = 09 Marks

9. RELEVANT INTRODUCTION **02 Marks**

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MAIN BODY

SIX factors affecting transpiration on the plants in greenhouse.

(i) Number of stomata the more stomata a leaf have the fast the rate of transpiration and vice versa.
(ii) The size and shape of leaves – Plants with large leaves lose more water than those with smaller leaves since large leaves have more stomata than small leaves.
(iii) An extensive root system – Plants that have extensive roots absorb more water hence lose more water than these with few roots.
(iv) Leaf cuticle – a thick cuticle rests water loss by transpiration while a thin cuticle makes water loss by transpiration easier.
(v) Position of stomata – The rate of transpiration is faster in plants with more stomata on the upper surface of a leaf than those on the lower surface of the leaf
(vi) Size of sub stomatal air spaces – Larger air spaces allow for a faster rate of transpiration because the leaves can hold more water vapour. Smaller substomatal air spaces slow down the rate of transpiration.
(vii) Sunken stomata – They occur in pits. They are not exposed to moving air so they slow down transpiration rate.
(viii) Epidermal hairs – These traps water on the surface of the leaves thus preventing water loss.

Any six (6) points @ 02 marks = 12 marks

CONCLUSION **01mark**

10. RELEVANT INTRODUCTION **02 Marks**

MAIN BODY

Precautions that should be taken when giving first and to the victim can,

(a) Assess the situation quickly and calmly
(b) Protect yourself and the victim from any danger
(c) Prevent infections between you and the victim
(d) Comfort and reassure the victim that he/she will recover soon
(e) Wear personal protective equipment whenever necessary
(f) Do not force vomiting using fingers or herbs – may cause kerosene to enter the lungs
(g) Do not delaying hospital treatment while using home remedies

Any six (6) points @ 02 marks = 12 marks

CONCLUSION **01 Marks**

11. RELEVANT INTRODUCTION **02 marks**

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MAIN BODY

- Causes of infertility in male and female reproductive systems male causes
  (i) Low sperm count
  (ii) Poor sperm motility
  (iii) Abnormal sperm shape
  (iv) Blocked sperm duets
  (v) Erectile dysfunction /impotence
  (vi) Hormonal imbalance (low testosterone)
  (vii) Premature ejaculation

  Female causes

  (i) Failure to ovulate

  (ii) Blocked fallopian tubes/oviduct

  (ii) Uterine fibroids

  (iii) Endometriosis

  (iv) Uterine fibroids
  (v) Hormonal imbalance
  (vi) Cervical mucus problem/infection
  Any six (6) points (three from male and the other from female) @ 02 marks

  CONCLUSION **01 Mark**

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