

BIOLOGY FORM 3 PAPER 1
TERM 3 2023
MARKING SCHEME

1. (a) Autotrophic nutrition; show alternation of generation; Limited movement; Limited excretory products/unspecialized respiratory structures; Localized growth;
- (b) having brightly coloured flowers; scented flowers; protandry; protogyny; self sterility; heterostyly;
- 2(a) Complete metamorphosis - eggs hatch into larvae while in incomplete metamorphosis hatch into nymphs which resemble the adult;
Complete metamorphosis has four stages; egg, larvae, pupa and adult while in incomplete metamorphosis has three stages; egg, nymph and adult.
- (b) To allow for growth of the insect;
- 3a) Arachnida;
b) Spider/scorpion/tick/mite;
c) Protoctista /protista;
- 4 Alcohol/ethanol; Carbon (IV) oxide; Energy/Adenosine Triphosphate;
- 5 - To increase supply of oxygen to the tissues;
- The oxygen is used to oxidize lactic acid (to carbon (IV) oxide, water and energy);
- 6 Ovary /Anther;
- 7 (a) This is the study of the interrelationship between organisms and their environment
(b) The maximum population of a species/Total number of organisms that a population habitat/area/region/ecosystem can support or Total number of population of a species a given habitat/area/region/ ecosystem can support without depleting available resources. **Rej.** If different species
- 8 Acrosome /Lysosome contain enzyme to digest membrane of the ovum;
- Numerous mitochondria to provide energy for movement;
- Long tail for faster movement;
- 9 a) nuclear pore;
b) Rough endoplasmic reticulum
c) Surface area covered with ribosome's; for protein synthesis/ channels for transport of protein
- 10 Androgens
Acc-androgen
- 11 Carbon (IV) oxide, nitrogenous waste

- 12 water; mineral ions/salts, vitamins
- 13 Sacking small insects/small animals
 (b) A trap into which (small) animals fall and get trapped; acc. Examples of small animals e.g. insect/reptiles. Arachnids
- 14 a) Grass → Grasshopper → Lizards
 (b) (i) Chicken
 (ii) Grass

15 **Fine adjustment knob**

Moves the body tube through smaller distances to bring image/specimen/object into sharper/sharp focus

Stage

Platform where specimen (on slide) is placed

- 16 a) Dry/arid/semi-arid/desert
 (b) Succulent/freshly stem; reduced leaves/leaves reduced into thorns/spines. **Acc.** Thick stem for storage of water
- 17 (a) X
 (b) X has fewer stomata; most stomata in leaf X are concentrated on the lower side
- 18 (a) (i) Ovule; **rej**; ovules
 (ii) Axile
 (b) Orange or any other citrus fruit; lemon, tangerine, grape, lime, tomato, Sodom apple, Irish potato, egg plant, thorn apple, banana

19 J – sporangium

- Absorption of soluble substances/ digested food
- Secretion of digestive enzymes;
- Anchorage(of mould on substrate); anchorage must be in the right context

20 (a) Place/environment in which (specified)organism lives

(b) A natural unit with abiotic and biotic factors

21 Aids causes

- Sexual intercourse
- Blood transfusion
- Pregnant HIV positive mother to child

- 22 (a) Figure 1 R:
Figure 2 T: Accept growth
- (b) Development of the foetus /zygote/fertilized/ova/egg/embryo
- (c) Style
(d) R;P;
(e) X
- 23 (a) Passage of ova/ site of fertilization
(b) Storage of sperms
(c) Hold the testis/ protect the testis
- 24 Explosive; water; wind; animal
- 25 Actual length= drawing length divided by magnification;
 $4/2=2\text{cm}$;
- 26 Leads to growth of the organism;
-Production of new cells;

