**BIOLOGY**

**FORM 3**

**END TERM 2**

**July-August 2026** **MARKING SCHEME -**

**1.** a) ¡) sunlight ;

¡¡) chemical reactions ;

(b) Glucose; oxygen;

**2.** - Insoluble in water;

- Not sweet tasting;

**3**

| Enzyme | Substrate | Products |
|---|---|---|
| Pancreatic Amylase | Starch | Maltose |
| Pancreatic Lipase | Lipids | Fatty acids; Glycerol |
| Trypsin | Proteins | Peptides |

**4.** -Increase in temperature increases kinetic energy of molecules raising rate of diffusion ;

- small molecules are light and so move faster ; accept converse

**5. (**i) meat /flesh ;

(ii) presence of incisors on both jaws ;

(iii) 46 ;

**6.** (a) - Bryophyta has no roots, stem, leaves, while Pteridophyta have.

- Bryophyta have no vascular tissue while Pteridophyta has.

- Bryophyta has gametophyte as dominant while in Pteridophyta, sporophyte is dominant.

(b) - They show alternation of generations ;

- They don't produce seeds;

**7.**

| mitosis | meiosis |
|---|---|
| - Forms 2 daughter cells<br>- Daughter cells are diploid<br>- Occur in the general body<br>- Results in growth and repair | - Forms 4 daughter cells<br>- Daughter cells are haploid;<br>- Occur in the reproductive organs;<br>- Result in gamete formation; |

**8.** (a) Planktonic algae ;

(b) Planktonic algae -> insect larvae - >worms - >large fish - > birds

- Planktonic algae-> planktonic crustaceans - > small fish-> large fish - >birds

(c) - planktonic algae will increase ;

-Small fish would decrease ;

- birds would decrease ;

**9.** (a) To show that carbon (IV) oxide is produced during aerobic respiration ;

(b) - Bubbles were observed ;

- The solution turned into a white precipitate;

(c) water droplets were observed ;

(d) During aerobic respiration, carbon (IV) oxide ;and water; are produced

**10.**(i) Phylum Chordata;

Class Aves;

**NB: MUST START WITH CAPITAL LETTERS**

(ii) - mouth modified into a beak ;

- Body covered with feathers ;

- has wings;

**11. -** have jointed appendages ;

- Bodies covered with an exoskeleton;

- Bodies are segmented;

**12.** (i) Nucleolus;

(ii) Centriole;

**13.** (a) Length of drawing ÷ Length of object ;

(b) Ability to distinguish two closely placed objects;

**14.** (a) - Moist to dissolve respiratory gases;

- Large surface area to increase volume of gases exchanged;

- Highly vascularised to transport respiratory gases and maintain concentration gradient to favour diffusion ;

- Covered by the thin epithelium to reduce diffusion distance of the gases;

(b) [i] Alveolus;

[ii] gill filament;

**15. a) (i)** Number of members of same species in an area at a given time;

(ii) Group of members of different species in an area;

**(b)** - Agrochemicals;

- Domestic waste/ detergents;

**16. (a)** - source of food;

- Increase oxygen content in atmosphere;

- Reduce carbon (IV) oxide in atmosphere;

**(b)** water ; carbon (IV) oxide ;

**17. (a)** Osmosis ;

(b) Potato cylinder increased in size;

(c) Water is hypotonic; so water molecules moved into potato by osmosis; making the cells turgid;

**18. (a)** Dicot root;

(b) - Xylem is star- shaped;

- phloem between the arms of the star- shaped xylem;

(c) Cortex;

(d) Translocation;

**19. -** capture recapture method;

- Quadrat method;

**20. -** vasodilation; so blood is exposed to air for cooling;

- Sweating; sweat evaporates leaving a cooling effect;

- Erector pili muscles relax; hair fall on the skin exposing it to cooling by the wind;

**21. -** Carbon (IV) oxide used in baking industry to raise dough;

- Ethanol used in brewing industry to manufacture alcoholic drinks;

- Lactic acid used in dairy industry to make products;

**22. -** Made of special cardiac muscles that contract and relax continuously without fatigue;

- Have valves to prevent backflow of blood ;

- Divided by septum to prevent mixing of oxygenated and deoxygenated blood;

- Cardiac muscles myogenic and so contractions arise from within the muscle;

-Made of two chambers that receive blood and two chambers that pump blood out;

**23.** Pollination is transfer of pollen grains; while dispersal is transfer of fruits and seed;

**24. -** They have dense cytoplasm;

- They have thin cell wall;

- They have no vacuole ;

- They are small in size;

**25. (i)** Urine ;

(ii) Ammonia;

(iii) Uric acid;