FORM 2 TERM 1 2021
BIOLOGY

1. (a) What is meant by resolving power of a microscope? (1mk)

   b) State the reason behind the addition of iodine solution, to an onion epidermis on a slide while being observed on a light microscope. (1mk)

2. a) It is necessary for large organisms to have an elaborate transport system. Explain why. (2mks)

   b) Explain why an Amoeba does not require a transport system. (1mk)

3. State where the light stage of photosynthesis process occurs in a chloroplast. (1mk)

4. Give two importance's of the light stage in photosynthesis. (2mks)

5. State two characteristics of the alveoli of the mammalian lungs. (2mks)

6. Define counter current flow system as used in gaseous exchange in a fish. (2mks)

7. Explain why an individual with blood group O cannot receive blood from a person of blood group AB. (2mks)

8. a) Name the instrument used to measure the rate of transpiration. (1mk)

b) State three importances of transpiration in plants. (3mrks)

c) Give two reasons why fats are not a preferred respiratory substrate in organelles. (2mks)

9. Define the term respiratory quotient. (1mrk)

10. How is the mitochondrion adapted to carry out its function? (2mks)

11. The oxidation of a certain substrate is represented by the chemical equation shown below.

$$C_{57}H_{104}O_6 + 80\ O_2 \longrightarrow 57co_2 + 52H_2O + \text{Energy}$$

Calculate the respiratory quotient. (2mrks)

12. Identify the food substrate being oxidized (1mrk)

13. How does the process of respiration depend on photosynthesis? (2mks)

14. Give two industrial applications of anaerobic respiration (2mrks)