**NAME: ……………………………………… ADM NO: …………… CLASS: ……………**

**BIOLOGY**

**FORM TWO**

**END OF TERM 1 YEAR 2022**

**TIME: 2 HOURS**

**Answer all the questions in the spaces provided.**

1. (a) State two functional differences between arteries and veins in mammals. (2 mks)

|  |  |
| --- | --- |
| Arteries | Veins |
|  |  |
|  |  |

(b) Differentiate between Arteriosclerosis and Atherosclerosis. (2 mks)

2. Distinguish between active and passive natural acquired immunity. (2 mks)

3. Name the antigens and antibodies in human blood groups. (2 mks)

4. Explain why people with blood group O are referred to as universal donors while people with blood group AB are

universal recipients. (2 mks)

5. Outline two functions of each of the following structures of a cell

(a) plasmalemma. (2 mks)

(b) Golgi bodies (2 mks)

(c) Centrioles (2 mks)

6. State the functions of the following parts of a light microscope.

(a) Condenser (1 mk)

(b) Diaphragm (1 mk)

(c) Course adjustment knob (1 mk)

(d) Fine adjustment knob (1 mk)

(e) Eye piece (1 mk)

7. (a) Name the compound formed when carbon (II) oxide combines with haemoglobin: (1 mk)

(b) Why would the compound named in (a) above lead to death? (2 mks)

(c) Name the substance that transports carbon (iv) oxide

(i) Plasma (1 mk)

(ii) Red blood cells (1 mk)

8. (a) Distinguish between a single circulatory system and double circulatory system. (2 mks)

(b) Name a class whose members have a single circulatory system. (1 mk)

(c) Name the openings to the chamber of the hearts of an insect. (1 mk)

9. Outline two functions of lipids. (2 mks)

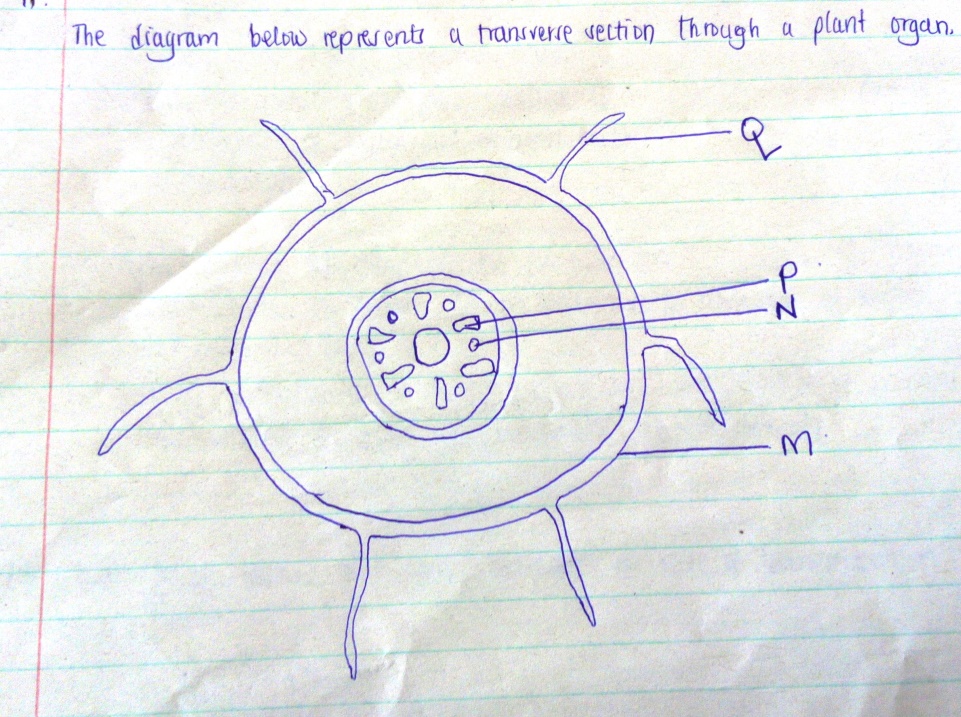
10. (a) How are leucocytes adapted to their functions. (2 mks)

(b) Name the blood vessel with highest concentration of:

(i) Glucose (1 mk)

(ii) Carbon (Iv) oxide (1 mk)

11. The diagram below represents a transverse section through a plant organ.



(a) From which plant organ was the section obtained. (1mk)

(b) Give two reasons for your answer in (a) above. (2 mks)

(c) Name the parts labeled M, N, P AND Q. (4 mks)

M –

N –

P –

Q –

(d) State two functions of part labeled Q. (2 mks)

(e) Howe is part Q adapted to its function? (3 mks)

12. State three factors that cause decrease in rate of transpiration from leaves. (3 mks)

13. A student observed a row of 16 epidermal cells in a microscopic field that was 8mm in diameter. Calculate the average length of each cell in micrometers. (2 mks)

14. (a) Give the formula of working out the magnification of a microscope. (1 mk)

(b) Calculate the magnification that is obtained when an object is viewed with a X20 eyepiece and x80

objective. (2 mks)

15. Name the organelles that are involved in the following:-

(a) forms secretory vesicles (1 mk)

(b) Involved in cell division and formation of cilia and flagella. (1 mk)

(c) formation of ATP (1 mk)

(d) fixation of carbon (Iv) oxide to form sugars (1 mk)

(e) detoxification (1 mk)

16. Differentiatebetween Active transport and Osmosis. (2 mks)

17. State three roles of active transport in human body. (3 mks)

18. (a) Define gaseous exchange. (1 mk)

(b) Explain four adaptive characteristic features of respiratory surfaces. (4 mks)