**MIDTERM TWO EXAM 2022**

**FORM ONE**

**TIME: 1HOUR 30 MINUTES**

**NAME……………………………………….CLASS……….ADM NO………**

(Answer all the questions in the spaces provided)

1.Define the following terms: (5 marks)

a). Organelle

b). Cell

c). Tissue

d). Organ

e). Organ system

2.State the functions of each of each of the following cell organelles. (5 marks)

a).Mitochondrion

b).Lysosomes

c).Ribosomes

d).Nucleus

e).Chloroplasts

3a) What do you understand by the term cell specialization? (2 marks)

b) Explain how the following cells are specialized to perform their functions

i) Sperm cell (2 marks)

ii) Root hair cell (1 mark)

4.A student used a light microscope to observe a specimen. He observed eight cells along the diameter of field of view of length 20mm. Find the size of one cell in micrometres. (3 marks)

5.State five differences between a plant cell and an animal cell. (5 marks)

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| --- | --- |
| Plant cell | Animal cell |
|  |  |
|  |  |
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6.If the eye piece magnification is ×10 and the objective lens has a magnification of ×15. Find the total magnification. (3 marks)

7.State five differences between a light microscope and an electron microscope. (5 marks)

|  |  |
| --- | --- |
| Light microscope | Electron microscope |
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8a). Draw a well labelled diagram of a hand lens. (3 marks)

b).A student used a hand lens to magnify an insect. The actual length of the insect was 2.5cm. The length of the drawing was 7.5cm. Determine the magnification. (3 marks)

9a). What is cell physiology? (1 mark)

b). State the three physiological processes. (3 marks)

c). State three factors that affect diffusion process. (3 marks)

d). Distinguish between osmosis and diffusion. (2 marks)

e). State three roles of diffusion in living organisms. (3 marks)

10.Explain the term semi-permeability as a property of a cell membrane.(1 mark)