BIOLOGY DEPARTMENT S.5 TOPICAL TESTS SERIES SET ONE MARCH 2024 TERM 1

1.a) What do you understand by the following terms as applied in cytology (03 marks) i) Cytoskeleton (02.5 marks)
ii) Syncytia (01 mark)
iii) Endosymbiosis.(1 mark)
b) Briefly describe the meaning of the following parts of the cell i) Cytoplasm (08 marks)
ii) Protoplasm (03 marks)
2.a) In the space below, draw a well labeled structure of any rod shaped prokaryotic cell (12 marks)

b) State any 8 structural differences between eukaryotic cell and prokaryotic cell. Put your answers in a table form
3. a) Mathias Schleiden (1838) et al proposed different ideas that are true about cells in
what they called cell theory; however it was found out that not all cells agree to these ideas that were proposed. i) State all the modern ideas of the cell theory (06 marks)
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i) surface area to volume ratio (04 marks)
ii) nucleo-cytoplasmic ratio (03 marks)
iii) Mechanical structures that hold the cell together (03 marks)
4. It is believed that eukaryotic cells originated from prokaryotic cells. Many theories
have been put forward to explain how this could have occurred. In the space below, describe one of the known theories that explain how this occurred. (08 marks)
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5. In just only 5 ways, describe how the properties of water relate to its biological role (10 marks)
6. a) What do you understand by the term scientific classification (01 mark)
b) Distinguish between artificial classification and natural classification (03 marks)
b) Of what importance is classification of organisms (4 marks)

Struggle has just started and still continues. Success