BOWEN UNIVERSITY, IWO
COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE
PURE AND APPLIED BIOLOGY PROGRAMME
2022/2023 FIRST SEMESTER EXAMINATION
BLY 209: BASIC MICROBIOLOGY

Answer question **ONE** and any two others **Time: 2 h 15 min**

1. (a) Highlight **five** comparative characteristic differences between Gram-positive and Gram-negative bacteria. (5 marks)
   (b) Describe the Gram's staining procedure (10 marks)
   (c) (i) **Name** and **define** the infectious agent responsible for such diseases as autoimmune deficiency syndrome (AIDS), common cold and monkeypox (3 marks)
   (ii) draw and label a simple diagram of the infectious agent mentioned in (i) above and give **five** distinguishing characteristics (8 marks)
   (iii) Explain briefly **two** differences between a viroid and a prion. (4 marks)

2. (a) Explain the different types of cellular arrangements in bacteria and cite **one** specific example of **each** (12 marks)
   (b) What are the components of a bacterial cell? Give **one** function of each component (8 marks)

3. (a) Mention the names of **three** individuals who made significant contributions to the early development of the science of Microbiology (3 marks)
   (b) Mention **one** remarkable input from each individual listed in **3(a)** (6 marks)
   (c) Suggest the effect **each** contribution mentioned in **3(b)** above could have added towards understanding microbiology in this present day (6 marks)
   (d) State **two** importance of microorganisms to mankind. (5 marks)

4. Differentiate between the following:
   a) Septate and Coenocytic hyphae (4 marks)
   b) Mycorrhiza and Symbiosis (4 marks)
   c) Conidiospores and Sporangiospores (4 marks)
   d) Plasmogamy and Karyogamy (4 marks)
   e) Budding and Fission (4 marks)

5. (a) Describe the Haplo-diplobiontic life cycle of *Saccharomyces cerevisiae* (10 marks)
   (b) Enumerate **four** economic importance of *S. cerevisiae* (2 marks)
   (c) Discuss in detail, asexual reproduction in *Rhizopus stolonifer* (8 marks)