Instructions:

1. Answer all questions in section A and any other 2 questions in Section B.

2. Candidates are advised not to write on the question paper

3. Candidates must hand in their answer booklets to the invigilator while in the examination room
SECTION A: ANSWER ALL THE QUESTIONS IN THIS SECTION (30 MKS)

1. Identify the infective stage of the following parasites;
   a) *Leishmania donovani*
   b) *Plasmodium falciparum*
   c) *Giardia intestinalis* (3mks)
2. State any two types of life cycle (2 mks)
3. Name three specimens used in diagnosis of parasites ( 3 mks)
4. Name three routes used by the parasite to get into the body of the host (3 mks)
5. Define symbiosis and state and explain two types of such relationship (4mks)
6. State three major stages in the life cycle of nematodes (3 mks)
7. State three characteristics of cestodes (3 mks)
8. State three morphological characteristics of arthropods (3 mks)
9. State one medical importance of cockroaches (1 mk)
10. State the medical importance of flies (3 mks)
11. State two characteristics of *Plamodium falciparum* (2 mks)

SECTION B: ANSWER ANY TWO QUESTIONS IN THIS SECTION ( 40 MKS)

1. a) Describe the mode of transmission, morphology, site of infection, life cycle , treatment and control of infections by *Entamoeba histolytica* ( 15 mks)
   b) Discuss on the methods of reducing infections by Schistosoma mansoni (5 mks)
2. a) Describe the life cycle, epidemiology treatment of infection by *Trypanosoma brucei* (10 mks)
   b) Identify at least five vector borne diseases together with their respective vectors and parasites (10 mks)
3. a) Discuss on any five association between organisms in ecology (10 mks)
   b) List and explain some of the five adaptations of the invertebrates that has ensured their survival in the environment (10 marks)
4. Discus on the different type of parasites and hosts (20 mks)