

## **BMET 451: DIAGNOSTIC MICROBIOLOGY AND PARASITOLOGY**

### **INSTRUCTIONS:**

- **Answer Question One and any other Two Questions**
- **Do not write on the question paper**

### **QUESTION ONE (30 MARKS)**

- a) Define the following terms [10 Marks]
- Presumptive diagnosis
  - Definitive diagnosis
  - Cytopathic effects (CPE)
  - Manifestation of an infection
  - Serodiagnosis
  - Antimicrobial susceptibility
- b) Explain, why it is recommended not to carry out Gram stain on throat swabs [2 Marks]
- c) State and explain ways by which viruses that cannot be identified by producing CPE can be identified [6 Marks]
- d) Not all specimens delivered to the labs are analyzed for diagnosis of disease. Outline the criteria for rejection of fungal specimen in the lab [4 Marks]
- e) Explain the factors affecting the sensitivity and specificity of nucleic acids method in diagnosis of parasitic infections [8 Marks]

### **QUESTION TWO (20 MARKS)**

- Explain four methods for definitive identification of viruses in an infection [4 Marks]
- Explain in details the nucleic acid methods for diagnosis of parasitic diseases [7 Marks]
- What is xenodiagnosis and giving an example explain where it is applied? [3 Marks]
- Briefly explain the process of specimen selection, collection and processing of a given bacterial agents associated or alleged to be responsible for an infection [6 Marks]

### **QUESTION THREE (20 MARKS)**

Describe in details the methods applicable in the direct examination of fungi for presumptive diagnosis of a given fungal disease [20 Marks]

### **QUESTION FOUR (20 MARKS)**

- State three advantages of nucleic acid detection as a suitable method for diagnosis of parasite caused diseases. [6 Marks]
- State four reasons for the concentration of parasite examination specimen [4 Marks]
- Briefly explain how you can diagnose  $\beta$ -hemolytic streptococci group A in a clinical laboratory. [10 Marks]