Unique Paper Code (UPC)   :   32533933

Name of the Paper   :   Microbial Diagnosis in Health Clinics

Name of the Course   :   B.Sc. (Hons.) Microbiology

Semester   :   3

Duration   :   3 hours including time taken for downloading

                                            question paper and uploading answer sheets

Maximum marks   :   50

On first page, please write the following details:

1. Date and time of examination (DD/MM/YYYY, Hours:Min)
2. Examination Roll Number
3. Name of the Program, i.e. B.Sc. (H) Microbiology
4. Semester
5. Unique Paper Code (UPC)
6. Title of the Paper
7. Name of the College
8. Email ID of the student
9. Mobile Number of the student

SET 1

Attempt any *four* questions. **All** questions carry equal marks. Please write your answers on A4 sheets and put the page number at the top of each page.

Q1. What are the challenges in microbial disease diagnosis? Explain the procedure for collection of clinical specimen from the following sites: brain, urinary tract, oral cavity, and skin.

(4.5+8=12.5)

Q2: Give an example each of a selective, differential, and enrichment media. Discuss a medium used for culturing of the following: *Mycobacterium tuberculosis*, *Vibrio cholerae*, *Salmonella typhi*, and *Streptococcus sp.* Why do we prefer chocolate agar for culturing *Haemophilus influenza*e over blood agar? (3+8+1.5=12.5)

Q3: Name <u>any 5 </u>of each of the nucleic acid and serology based methods used for the identification of microbial pathogens. Discuss one method of each type in detail. (2.5+10=12.5)

Q4. Describe the staining methods used for the detection of the following: tuberculosis, cutaneous anthrax and malaria. Albert stain is used for which organism? (12+0.5=12.5)

Q5 Discuss the principle of the lateral flow based diagnostic tests? Explain their importance in health sciences? Comment on the rapid detection tests for the following: Typhoid, Dengue and Influenza. (3+2+7.5=12.5)

Q6: Why is the determination of MIC useful? How MIC of an antibiotic can be determined? Define MDR, XDR and TDR. (2+6+4.5=12.5)