

Sl. No.	:	2138	GC - 3
Unique Paper Code	:	32533933	
Name of the Paper	:	SE-2: Microbial diagnosis in Health Clinics	
Name of the Course	:	B.Sc. (Hons.) Microbiology	
Semester	:	III (CBCS)	
Duration	:	2 hrs	
Maximum Marks	:	50	

Instructions to the candidates:

Attempt five questions in all. All the questions carry equal marks.

- Q1. a. Briefly explain the following with suitable examples (**any five**): 2x5=10
- i. Clinical Specimen
 - ii. Specificity of diagnostic test
 - iii. Septicemia
 - iv. Abscesses
 - v. Otitis Media
 - vi. Carrier
 - vii. Processing of CSF specimen

- Q2. a. Explain, how a genomic sequence of a pathogen is selected as target for diagnostics. 3
b. Write the precautions that should be observed during collection of clinical specimen from a patient. 4
c. How do you ensure that an infection occurred recently in a patient while performing antibody based diagnosis. 3

- Q3. Name any two important pathogens responsible for the following conditions and mention suitable clinical specimens for diagnosis of each pathogen (**any 4**). 2.5x4=10

Meningitis, Pharyngitis, Pyogenic infections, Urinary tract infection, Dysentery

- Q4. a. What is the difference between direct and indirect ELISA and which one is preferred in diagnosis and why? Also give an example of the enzyme substrate combination used in ELISA. 4
b. Discuss the advantages and disadvantages of DNA based diagnostic methods over conventional diagnostic methods. 3
c. Name the suspected pathogen/parasite for which the following staining procedures should be performed: 3

Albert stain, Modified acid fast staining, Giemsa stain

- Q5. a. Explain the procedure for collection of clinical specimen from the following sites (**any three**): 3x2=6
Oral cavity, Urinary tract, Genital tract, Skin
b. Name a suitable medium for culturing, if following infections are suspected. 1x4=4
i. Oral thrush, ii. Diarrhea, iii. Tuberculosis, iv. Staphylococcal infection

- Q6. a. What is the significance of drug resistant bacterial strains in human health? 2
b. What is the basic difference between chocolate agar and blood agar? 2
c. How can we make a medium selective for *Neisseria*? 2
d. What is the basis of selectivity and differential property of MacConkey Agar? 2
e. Why is it important to study the colony characteristics of pathogenic bacteria? 2