

Roll No.

Total No. of Pages : 02

Total No. of Questions : 11

M.Sc (Medical Microbiology) (Sem.-2)

**MEDICAL BIOTECHNIQUES**

Subject Code : MMB-203-21

M.Code : 92126

Date of Examination : 08-07-22

Time : 3 Hrs.

Max. Marks : 70

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains EIGHT questions carrying FIVE marks each and students have to attempt any SIX questions.
3. SECTION-C contains THREE questions with internal choice carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

1. a) Define Chromatography.  
b) Give the full form of TEM and SEM.  
c) What is bathochromic shift?  
d) What is the function of grating monochromators in spectrophotometer?  
e) Define coupling constant.  
f) Explain radioactive handling.  
g) Give applications of spectrophotometer.  
h) Name the detectors used in gas chromatography  
i) Write down the principle of gel electrophoresis.  
j) Define isotopic peak in mass spectroscopy.

## SECTION-B

2. Explain theory of spin-spin coupling.
3. Explain the Beers law. Describe factors responsible for deviation from Beers law.
4. Write a short note on radioactivity and radioisotopes with examples.
5. Give principle, theory and uses of different configuration techniques.
6. Explain principle of infrared spectroscopy.
7. Explain construction and analytical application of ion exchange chromatography.
8. Give an account of principle and applications of atomic absorption spectroscopy.
9. What information can be obtained from IR spectroscopy? Discuss in detail,

## SECTION-C

10. Give an account on different electrophoretic techniques.

OR

Discuss general fragmentation pattern in Mass spectrophotometer for identification of organic compounds.

11. Give principle, working, instrumentation and applications of HPLC.

OR

What are the different diagnostic and metabolic studies of radioactive handling? Discuss its application in detail.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**