Bachelor of Science (B.Sc.) Fifth Semester

B.Sc. 3532 - Microbiology Paper-II (Bioinstrumentation)

P. Pages : 2 **GUG/W/18/1319**

Time : Three Hours * 1 0 3 2 * Max. Marks : 50

Notes : 1. All the questions are compulsory and carry equal marks.

1. Explain difference between spectrophotometer and colorimeter working. **10**

OR

What are ion exchange resins? Describe in detail ion exchange chromatography.

2. What are solubilizers? Discuss SDS-PAGE electrophoresis. **10**

OR

Discuss in detail applications of isotopes in biological science.

3. a) Explain the concept of chromophore. **2½**

b) Write in brief about paper chromatography. **2½**

c) Discuss the principle and applications of western blotting. **2½**

d) Write a note on sedimentation coefficient. **2½**

OR

e) Write in brief : concept of electromagnetic radiation. **2½**

f) Discuss the applications of gel filtration chromatography. **2½**

g) Explain cellulose acetate electrophoresis. **2½**

h) What is radioactivity? Write in brief about units of radioactivity. **2½**

4. a) Write a note on Lambert's and Beer's Law. **2½**

b) Discuss applications of thin layer chromatography. **2½**

c) Discuss in brief factors affecting electrophoretic mobility. **2½**

d) Write a short note on Geiger-Muller counter. **2½**

OR

e) Discuss applications of UV-visible spectrophotometry. **2½**

f) Discuss principle and applications of affinity chromatography. **2½**

g) Write a note on slab gel electrophoresis. **2½**

h) Write a note on density gradient centrifugation. **2½**

5. Solve **any ten** of followings.

a) What is extinction coefficient? **1**

b) Give any two applications of spectrophotometry in biological science. **1**

c) What is Bathochromic shift? **1**

d) Define partition coefficient. **1**

e) What is the role of ninhydrin in chromatography! **1**

f) Define retardation factor. **1**

g) Define isoelectric point. **1**

h) Give the role of ethidium bromide in agarose gel electrophoresis. **1**

i) What is Sephadex? **1**

j) What is RCF? **1**

k) Define quenching. **1**

l) Define radioactive decay. **1**

****