



**SB-3568**

**M. Sc. (Part - II) (Medical Technology)  
Examination**

**March / April – 2011**

**Paper - V : Instrumentation, Biostatistics & Lab.  
Management**

Time : 3 Hours]

[Total Marks :52

**Instructions :**

(1)

नीचे दशांशिक निशानोंवाणी विगतो उत्तरवडी पर अवश्य लभवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<b>M. Sc. (Part - 2) (Medical Technology)</b>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<b>5 : Instrumentation, Biostatistics &amp; Lab. Management</b>	<input type="text"/>
Subject Code No. : <input type="text" value="3"/> <input type="text" value="5"/> <input type="text" value="6"/> <input type="text" value="8"/>	<input type="text"/>
Section No. (1, 2,.....): <input type="text" value="Nil"/>	
Student's Signature	

- (2) Answer all the questions.  
(3) Illustrate your answers with neat diagrams whenever necessary.  
(4) Figures to the right indicate full marks of that question.

- 1 (a) Explain the construction of glass electrode and possible errors encountered with it. How pH meter is calibrated and used ? **12**  
(b) Discuss regular gel electrophoresis and gradient gel electrophoresis. How detection is done in the technique.

**OR**

- 1 (a) Explain the use of ion selective electrode for Calcium and Magnesium. **12**  
(b) Discuss the principle and application of electrophoresis.

- 2 (a) Explain the principle and application of Flame emission spectroscopy and Atomic absorption spectroscopy. **12**  
(b) Explain the principle and use of radioimmunoassay (RIA).

**OR**

- 2 (a) Principle and applications of fluorescence measurements. **12**  
(b) Radioisotopes in medical field.

- 3 (a) Give lay out diagram of HPLC instrument. Explain the use of bonded phase supports as stationary phase in HPLC. What is the difference between normal phase and reversed phase liquid chromatography. 10
- (b) Explain the criteria in selecting carrier gas in Gas chromatography (GC). Name three liquid stationary phases used in GC with their applications.

**OR**

- 3 (a) Name the detectors used in High Performance Liquid Chromatography (HPLC) compare them. Give applications of HPLC. 10
- (b) Explain the principle and working of Thin Layer Chromatography (TLC). Give its applications and merits over Paper Chromatography (PC).

- 4 Write notes on any **three** : 9
- (a) Ethics and medico legal matters
- (b) Personal management in clinical laboratory
- (c) Biochemical, chemical and fire hazards in clinical laboratory
- (d) Laboratory space management and costing.

- 5 Write any **three** : 9
- (a) Chi-square test and anova
- (b) Normal distribution curve
- (c) Binomial distribution
- (d) Mean, Median, Standard deviation and coefficient of standard deviation
- (e) Methods for presentation of data.