



**AB-3144**  
**B.Sc. (Sem. V) (Microbiology) Examination**  
**March/April – 2015**  
**Instrumentation and Techniques**  
**(CAN Course)**

Time : 2 Hours]

[Total Marks : 50

**Instructions :**

(1)

<p>નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination :</p> <p><b>B.Sc. (Sem. V) (Microbiology)</b></p> <p>Name of the Subject :</p> <p><b>Instrumentation and Techniques (CAN Course)</b></p> <p>Subject Code No. : <b>3 1 4 4</b> Section No. (1, 2,.....) : <b>NIL</b></p>	<p>Seat No. :</p> <table border="1" style="width: 100%; height: 20px;"><tr><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td></tr></table> <div style="border: 1px solid black; border-radius: 15px; height: 60px; display: flex; align-items: center; justify-content: center; margin-top: 10px;">Student's Signature</div>						

- (2) Figures to the right indicate full marks of the question.  
(3) Draw neat and labelled diagrams whenever necessary.

- 1 Give specific answers : 12
- (a) Give specifications and use of high speed cooling centrifuge ?
  - (b) What are nebuliser and photosensitive element in flame photometer.
  - (c) Give two differences between HeIII and Ecorl.
  - (d) Give principle of cell counting by impedance measurement.
  - (e) Name the polar and nonpolar groups bonded to silica particles in HPLC.
  - (f) Give three basic components of electrical balance.
- 2 Explain/comment on any two of the following : 12
- (a) There are different types of chromatographic techniques based on the type of interaction with the stationary phase.
  - (b) Quality control in PCR.
  - (c) There are several advantages of automated instruments in hematology.

- 3** Discuss any two of the following: **16**
- (a) Describe the factors affecting the migration of charged particles and support media for electrophoresis.
  - (b) Draw the hypothetical line diagram of working of any one of the fully automated batch analyzer in clinical biochemistry.
  - (c) Explain the DNA probe methodology and applications of DNA probe.
- 4** Write short notes on any two of the following : **10**
- (a) Function verification and preventive measures of centrifuge
  - (b) Blotting techniques
  - (c) HPLC.
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