

SUBJECT : ANALYTICAL TECHNIQUES

Day : Saturday
Date : 13/04/2019

Time : 03.00 PM TO 06.00 PM
Max. Marks : 60

S-2019-1210

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
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Q.1 Describe fluorescence spectroscopy and its applications. **[15]**

OR

Explain the Gas liquid chromatography (GLC) and Gel exclusion chromatography.

Q.2 a) Explain the method based on gas ionization principle for measurement of radioactivity. **[08]**

b) Give comparative account of Native PAGE and SDS – PAGE technique. **[07]**

Q.3 Attempt **ANY THREE** of the following: **[15]**

- a) Calculate the RCF exerted at the top and bottom of centrifugal tube being rotated in fixed angle rotor at speed 12,000 rpm.
(Given : $r(\text{min})$ at top = 4.8, $r(\text{max})$ at bottom = 9 cm)
- b) Explain the terms Retention time and Capacity factor.
- c) Write types and uses of preparative centrifuge.
- d) Schematically represent working of double beam U.V.-Visible spectrophotometer.
- e) Write the working principle of Affinity chromatography

Q.4 Write short notes on **ANY THREE** of the following: **[15]**

- a) Analytical centrifugation
- b) Applications of UV visible spectroscopy
- c) Basic apparatus in electrophoresis
- d) Half-life of radioisotope
- e) Rotors

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