

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)  
**BSc DEGREE EXAMINATION DECEMBER 2017**  
(Fourth Semester)

Branch - **BIOTECHNOLOGY**

**ANALYTICAL TECHNIQUES**

Time : Three Hours

Maximum : 75 Marks

**SECTION-A (20 Marks!)**

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

- 1 What is basic buffer?
- 2 Define normality. How will you calculate normality?
- 3 What is anion exchanger? Give an example.
- 4 List out the factors influence the migration of sample during electrophoresis
- 5 Describe sedimentation equilibrium.
- 6 What is centrifugal force?
- 7 What is the role of monochromator?
- 8 Give any two applications of fluorescence spectroscopy.
- 9 Define : Curie
- 10 What are the methods used to measure radio activity?

**SECTION - B (25 Marks)**

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Principle and applications of conductivity meter.  
OR  
b Give an account on amperometric titration.
- 12 a Explain 'Thin layer chromatography'  
OR  
b Describe the principle and applications of gel electrophoresis.
- 13 a Give an account on partition coefficient and its applications  
OR  
b Discuss : Reverse osmosis.
- 14 a List out the applications of flame emission spectroscopy.  
OR  
b Describe UV- Spectrophotometry.
- 15 a Explain : Liquid scintillation counter.  
OR  
b Describes the various units used to measure radio activity.

**SECTION - C (30 Marks)**

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Potentiometric titrations : Discuss.
- 17 Describe gas-liquid chromatography.
- 18 Write an essay on density gradient centrifugation.
- 19 Give on account on raman spectroscopy.
- 20 Explain : Autoradiography.