

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2019
(Fourth Semester)

Branch- **BIOTECHNOLOGY**

ANALYTICAL TECHNIQUES

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10x2 = 20)

- 1 What is Redox potential?
- 2 Write notes on molarity and molality.
- 3 What are the gases used in GC and its uses.
- 4 Define isoelectric focusing.
- 5 What is freeze drying?
- 6 Explain the role of softner in water.
- 7 Write the principles of flame photometry.
- 8 List out the different types of spectroscopy.
- 9 What are radioisotopes?
- 10 Explain the units of radioactivity.

SECTION - B (25 Marks!)

Answer **ALL** Questions

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

- 11 a How will you prepare the different types of buffers?

OR

b Write notes on potentiometry.

- 12 a Explain about paper chromatographic technique.

OR

b Give an account on capillary electrophoresis.

- 13 a Write notes on fractional distillation.

OR

b Comment on density gradient centrifuge.

- 14 a Write notes on infra red spectroscopy.

OR

b Describe about Raman Spectroscopy.

- 15 a Explain about radioactive elements.

OR

b Write notes laboratory hazards.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Give an account on principle, working mechanism and applications of biosensors.
- 17 Write an essay on principle, working and significance of gas chromatography.
- 18 Discuss on an analytical centrifuges in biology.
- 19 Explain principle, working mechanism and applications of Atomic Absorption Spectrophotometer.
- 20 Describe about GM and Scintillation counter with neat cheteh