



BBG-003-001622 Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

July - 2021

BT-602 : Analytical Technique in Biotechnology
(Old Course)

Faculty Code : 003

Subject Code : 001622

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

1 Answer the following question in one word : **20**

- (1) The number of proton is also known as _____.
- (2) In ion exchange chromatography the column is packed with _____.
- (3) Give the full form of IPR.
- (4) Which detection method used of radioactivity ?
- (5) Give the full form of SDS-PAGE.
- (6) Which supporting media used in PAGE ?
- (7) In 2D PAGE second stage is _____.
- (8) Sedimentation coefficient express as _____.
- (9) Which scientist give $n\lambda = 2d \sin\theta$?
- (10) Give the full form of NMR spectroscopy.
- (11) The UV-visible spectrophotometer works on the principle of _____.
- (12) In reverse phase chromatography stationary phase is _____.
- (13) In FPLC _____ molecule are separated.
- (14) In GLC column temperature is _____.
- (15) Give the full form of PMT.
- (16) In paper chromatography stationary phase is _____.

- (17) Fundamental concept of nano technology is _____ and _____.
- (18) 1 nm = _____ m.
- (19) Which chromatographic separation based on size ?
- (20) Becquerel is unit of _____.

2 (a) Write any three out of six : **6**

- (1) Principle and example of potentiometer.
- (2) State Beer Lambert Law.
- (3) Give the two application of FPLC.
- (4) Write properties of solvent.
- (5) Draw the basic diagram of biosensor.
- (6) Define nanotechnology.

(b) Write any three out of six : **9**

- (1) Explain auto radiography.
- (2) State application of electromagnetic spectrum in biotechnology.
- (3) Write a note on zonal centrifuge.
- (4) Give the principle and application of IR.
- (5) Explain retention time and selectivity.
- (6) Give the application and principle of biosensor.

(c) Write any two out of five : **10**

- (1) Explain isoelectrofocusing.
- (2) Give the principle and instrumentation of NMR.
- (3) Write a note on GLC.
- (4) Explain SDS-page electrophoresis.
- (5) Explain application of nanotechnology.

- 3 (a) Write any three out of six. 6
- (1) Define sedimentation.
 - (2) Define column efficiency.
 - (3) Explain refraction and diffraction.
 - (4) What is principle of auto radiography ?
 - (5) What is n/p ratio ? Give its importance.
 - (6) Application of planner chromatography.
- (b) Write any three out of six : 9
- (1) Define patenting, copy right, trade secret.
 - (2) Write the difference between HPLC and GLC.
 - (3) Write down the properties of supporting phase.
 - (4) Application and principle of x-ray diffraction.
 - (5) Write a note on capillary electrophoresis.
 - (6) What is radioactive decay ? Discuss in short about type of radioactive decay.
- (c) Write any two out of five: 10
- (1) Explain principle and basic component of centrifuge.
 - (2) Define spectroscopy and explain atomic emission spectroscopy.
 - (3) Write a note on affinity chromatography.
 - (4) Explain fundamental concept of nanotechnology.
 - (5) Explain electro analytical technique.
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