



RAN - 1903001103020001

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B. Sc. (Biotechnology) (Sem. - III) Examination

March - 2023

BT-05 : Instrumentations and Techniques

સૂચના : / Instructions

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

B. Sc. (Biotechnology) (Sem. - III)

Name of the Subject :

BT-05 : Instrumentations and Techniques

Subject Code No.: **1903001103020001**

Seat No.:

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Student's Signature

(2) All questions are compulsory.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ
O.M.R. Sheetની પાછળ છાપેલ છે.***

***Important instructions to fillup O.M.R. Sheet
are given on back side of the provided O.M.R. Sheet.***

- Q. 8.** A slice of rabbit liver was used to construct _____ electrode?
- A. Guanine selective B. Calcium selective
C. Fluoride selective D. None of given
- Q. 9.** Why does hydroxide ion interfere with the measurement of fluoride ion?
- A. Large size B. Small size
C. Same size D. Unknown reason
- Q. 10.** Which solution is filled in calomel electrode?
- A. Saturated solution of potassium chloride
B. Saturated solution of potassium iodide
C. Saturated solution Sodium chloride
D. Saturated solution of aluminium chloride
- Q. 11.** Which of the following is not the characteristic of ion selective electrodes?
- A. It is fragile
B. Easy to use
C. Available in different sizes and shapes
D. It is insensitive to many ions
- Q. 12.** In recent liquid membrane electrodes, the porous liquid membrane is replaced with which of the following?
- A. Polyvinyl chloride B. Polyacryl chloride
C. Polyester membrane D. Polyacryl amide
- Q. 13.** Identify the radioactive version of carbon.
- A. ^{12}C B. ^{15}C
C. ^{13}C D. ^{14}C
- Q. 14.** What does act as an anode in Geiger Muller counter?
- A. Argon gas B. Platinum rod
C. Copper cylinder D. Steel plate

- Q. 22.** Intensifying screen sheet is used in _____.
- A. Direct autoradiography
 - B. Indirect autoradiography
 - C. Converged autoradiography
 - D. Conservational autoradiography
- Q. 23** _____ is defined as the total amount, as distinct from the concentration, of analyte present in one phase divided by the total amount present in the other phase.
- A. Distribution coefficient
 - B. Partition coefficient
 - C. Effective distribution coefficient
 - D. Concentration
- Q. 24.** Choose the correct statement for chromatography.
- A. Higher the adsorption to the stationary phase, the faster the molecule will move through the column.
 - B. Higher the solubility in the mobile phase, the faster the molecule will move through the column
 - C. Higher the absorption to the stationary phase, the faster the molecule will move through the column
 - D. None of the above are correct.
- Q. 25.** Pre-activation of chromatographic plate can be carried out at which temperature in Hot air oven?
- A. 101 °C
 - B. 301 °C
 - C. 401 °C
 - D. 201 °C
- Q. 26.** Which of the following is an effective way of purifying liquids containing suspensions?
- A. Crystallization
 - B. Decanting
 - C. Centrifuging
 - D. Separating funnel

- Q. 40.** Which of the given option correctly represent the dimensions of the cuvette?
- A. 1.00 cm by 1.00 cm cross section and are several centimeters in height
 - B. 0.10 cm by 1.00 cm cross section and are 1.00 centimeters in height
 - C. 10.0 cm by 10.0 cm cross section and are 1.0 centimeters in height
 - D. 1.00 cm by 10.0 cm cross section and are several centimeters in height
- Q. 41.** Function of reference beam is to _____.
- A. Provide the final light intensity after passing through the sample
 - B. Provide the initial light intensity before passing through the sample
 - C. Both of the given
 - D. None of the given
- Q. 42.** The colorimeter is generally allowed to warm up for 15 minutes in order to _____.
- A. Perform auto-cleaning
 - B. Generate Vacuum
 - C. Stabilize the light source and the detector
 - D. None of the given
- Q. 43.** The useful range of absorbance scale is from 0-2 but it is desirable to keep within the range 0-1 because, above 1, the results become unreliable due _____.
- A. To scattering of light.
 - B. To refraction of light from the edge of solution
 - C. To difficulty in calculation results
 - D. All of the given
- Q. 44.** In colorimeter, process of recording “zero absorbance” is called as _____.
- A. Celebration
 - B. Calibration
 - C. Zeroing
 - D. Auto-tuning
- Q. 45.** Beer-Lambert’s law is only applicable to _____.
- A. A beam of monochromatic light passes through a homogeneous transparent medium
 - B. A beam of dichromatic light passes through a homogeneous transparent medium
 - C. A beam of multichromatic light passes through a homogeneous transparent medium
 - D. All of the given are correct

SPACE FOR ROUGH WORK