

**A****DF-3034****B. Sc. (Bioscience) (Sem. III) Examination****March / April – 2016****303 : Biophysics & Instrumentation**

Time : 2 Hours]

[Total Marks : 50

Instructions :

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
B. Sc. (SEM. 3) (BIOSCIENCE)	<input type="text"/>
Name of the Subject :	<input type="text"/>
303 : BIOPHYSICS & INSTRUMENTATION	<input type="text"/>
Subject Code No. : <input type="text"/> 3 <input type="text"/> 0 <input type="text"/> 3 <input type="text"/> 4	Student's Signature
Section No. (1, 2,.....) : <input type="text"/> 1	

- (2) This exam contains 50 multiple choice questions, each worth 1 mark.
- (3) Choose only ONE most appropriate answer per question.
- (4) Do not crease or fold the answer sheet.

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

***Important instructions to fillup O.M.R. Sheet
is given back side of provided O.M.R. Sheet.***

- 1 Which of the following is an optical instrument, except ?
 - (A) Electrophoresis
 - (B) Colorimeter
 - (C) Spectrophotometer
 - (D) Microscope

- 2 Absorption is directly proportional to
 - (A) Concentration of substance
 - (B) Molecular weight of the substance
 - (C) Charged of the substance
 - (D) All of these

- 3 A technique that separates substance under the influence of an electric field is called
 - (A) Chromatography
 - (B) Electrophoresis
 - (C) Electro endosmosis
 - (D) TLC

- 4 Which of the following is a separation technique, except ?
 - (A) Electrophoresis
 - (B) Chromatography
 - (C) Colorimetry
 - (D) None of these

- 5 Factors affecting the migration of charged particle are
 - (A) Voltage
 - (B) Charge
 - (C) pH of buffer
 - (D) All of these

- 6 An alkaline pH protein can move towards
 - (A) +ve charge
 - (B) -ve charge
 - (C) Cathode
 - (D) None of these

- 7 If distance between electrode is increased then migration of charged particle is
 - (A) Increase
 - (B) Decrease
 - (C) Both Increase and Decrease
 - (D) None of these

- 8 Basic requirement for electrophoresis, except
(A) Runner solution
(B) Buffer solution
(C) Gel
(D) Power pack
- 9 Which of the following is an example of gel electrophoresis, except ?
(A) Agar
(B) Agarose
(C) Paper
(D) PAGE
- 10 Beer's law & Lambert's law is the working principle of
(A) Calorimeter
(B) Spectrophotometer
(C) Both Calorimeter and Spectrophotometer
(D) Chromatography
- 11 Which of the following is a type of paper chromatography ?
(A) Ascending
(B) Horizontal
(C) Descending
(D) All of these
- 12 If the intensity of transmitted light is 100% then optical density is
(A) 0.01
(B) 0.1
(C) 0.001
(D) None of these
- 13 If the stationary phase is paper & mobile phase is liquid, then type of chromatography is known as
(A) Cellulose acetate electrophoresis
(B) TLC
(C) Paper chromatography
(D) All of these
- 14 If the concentration of solute is same but light path is varies, then absorption is
(A) Increased
(B) Decreased
(C) Varies
(D) None of these

- 15 Photocell is present in
(A) Electrophoresis
(B) pH meter
(C) Both Electrophoresis and pH meter
(D) Colorimeter
- 16 Rf value is always
(A) Less than one
(B) More than one
(C) Zero
(D) None of these
- 17 Which of the following is not a chromatography method ?
(A) Partition chromatography
(B) Gel-electrophoresis
(C) Gel-filtration
(D) Adsorption chromatography
- 18 The colorimeter requires
(A) Filters
(B) Cuvette
(C) Photocell
(D) All of these
- 19 Data which was directly obtained from an observation are called
(A) Primary data
(B) Secondary data
(C) Both Primary data and Secondary data
(D) None of these
- 20 PAGE is a
(A) Cellulose acetate electrophoresis
(B) Paper electrophoresis
(C) Gel-filtration chromatography
(D) None of these

- 21 Who developed electrophoresis technique ?
 (A) H. Khorana (B) Robert Hook
 (C) Nirenberg (D) Tiselius
- 22 Natural radioactive element belongs to
 (A) Uranium, Thorium and actinium series
 (B) Oxygen, Nitrogen and Carbon series
 (C) Both Uranium, Thorium and actinium series and Oxygen, Nitrogen and Carbon series
 (D) None of these
- 23 An example of radioactive isotopes
 (A) ^{60}Co
 (B) ^{32}P
 (C) ^{45}Ca
 (D) All of these
- 24 Differences in solubility of solute molecule for the mobile and stationary phase is the principle of
 (A) Partition chromatography
 (B) Adsorption chromatography
 (C) Gel-filtration
 (D) None of these
- 25 Natural radioactive elements belongs to
 (A) Uranium
 (B) Thorium
 (C) Actinium
 (D) All of these
- 26 Full form of 'RAD' is
 (A) Radiation Absorbed Dose
 (B) Radiation Activity Dose
 (C) Radio Active Dose
 (D) Roentgen Absorbed Dose
- 27 Full form of 'SDS' is
 (A) Sodium Di Sulphate
 (B) Sodium Dodecyl Sulphate
 (C) Both Sodium Di Sulphate and Sodium Dodecyl Sulphate
 (D) None of these
- 28 Hb concentration of nine patient is 10, 16, 13, 15, 11, 13, 12, 13, 11.
 Find out a median
 (A) 13 (B) 11
 (C) 15 (D) None of these
- 29 In which diagram there is no space between two columns ?
 (A) Histogram
 (B) Line diagram
 (C) Pie diagram
 (D) Bar diagram
- 30 The most frequent observation among the data is called
 (A) Mode (B) Median
 (C) Mean (D) None of these

- 31 Radioactive isotopes is useful for
 (A) Sterilization (B) Nuclear reactor
 (C) Atomic weapon (D) All of these
- 32 Which of the following is not an example of type of chromatography ?
 (A) Adsorption chromatography
 (B) Partition chromatography
 (C) Exclusion chromatography
 (D) All of these
- 33 Basic requirement for paper chromatography is
 (A) Runner solution
 (B) Developer solution
 (C) Mixture of solution
 (D) All of these
- 34 Beer's & Lambert's law is not the principle of
 (A) Colorimeter
 (B) Spectrophotometer
 (C) Both Colorimeter and Spectrophotometer
 (D) None of these
- 35 If mobile phase is liquid and stationary phase is solid, than chromatography is called
 (A) LSC (B) LLC
 (C) GSC (D) GLC
- 36 If ionic strength increase then migration of charge particle is
 (A) Increase
 (B) Decrease
 (C) Varies
 (D) None of these
- 37 Which of the following is not a basic requirement for electrophoreses ?
 (A) Densitometer
 (B) Buffer
 (C) Fixative
 (D) pH electrodes
- 38 Which diagram used to show the trend of event with the passage of time?
 (A) Single line diagram
 (B) Multiple line diagram
 (C) Both Single line diagram and Multiple line diagram
 (D) Pie chart
- 39 Study of collection, analysis & interpretation of data obtained from biological study is called
 (A) Mathematics
 (B) Arithmetic
 (C) Biostatistics
 (D) All of these
- 40 Which of the following is type of data, except ?
 (A) Continuous data (B) Discrete data
 (C) Qualitative data (D) None of these

- 41 The presentation of qualitative data through various types of geometrical devices is known as
- (A) Graphical representation of data
 - (B) Electrophoresis
 - (C) Paper chromatography
 - (D) Tabulation
- 42 A pie chart is also known as
- (A) Circular chart
 - (B) Sector diagram
 - (C) Both Circular chart and Sector diagram
 - (D) None of these
- 43 An example of radioactive isotope is
- (A) $^{60}\text{C}_o$
 - (B) ^{32}P
 - (C) ^{45}Ca
 - (D) All of these
- 44 Difference in the solubility of solute molecule for the mobile & stationary phase is
- (A) Adsorption chromatography
 - (B) Partition chromatography
 - (C) Exclusion chromatography
 - (D) None of these
- 45 Atomic mass and atomic number are continuously changes in
- (A) Radioactive compound
 - (B) Stable compound
 - (C) Radioactive compound and Stable compound both
 - (D) None of these

- 46 Which of the following is used for sterilization ?
- (A) Radioactive isotopes
 - (B) Stable isotopes
 - (C) Radioactive isotopes and Stable isotopes both
 - (D) None of these
- 47 During the radioactivity nuclei is
- (A) Lose the energy
 - (B) Provide the energy
 - (C) Lose energy and change elements
 - (D) Lose the energy and Provide the energy both
- 48 Who developed electrophoresis separation technique ?
- (A) Robert Hook
 - (B) H. Khurana
 - (C) N. Nirenberg
 - (D) Arne Tiselius
- 49 Data that is directly obtained from an individual is called
- (A) Primary data
 - (B) Secondary data
 - (C) Grouped data
 - (D) Ungrouped data
- 50 Raw data is also known as
- (A) Unknown data
 - (B) Known data
 - (C) Group data
 - (D) Ungroup data