

**D****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"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<input type="text" value="B. Sc. (SEM. 3) (BIOSCIENCE)"/>	<input type="text" value="Student's Signature"/>
Name of the Subject :	
<input type="text" value="303 : BIOPHYSICS & INSTRUMENTATION"/>	
Subject Code No. : <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="3"/> <input type="text" value="4"/>	Section No. (1, 2,.....) : <input type="text" value="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 The presentation of qualitative data through various types of geometrical devices is known as
- (A) Electrophoresis
 - (B) Paper chromatography
 - (C) Tabulation
 - (D) Graphical representation of data
- 2 A pie chart is also known as
- (A) Sector diagram
 - (B) Both Circular chart and Sector diagram
 - (C) None of these
 - (D) Circular chart
- 3 An example of radioactive isotope is
- (A) ^{32}P
 - (B) ^{45}Ca
 - (C) All of these
 - (D) ^{60}Co
- 4 Difference in the solubility of solute molecule for the mobile & stationary phase is
- (A) Partition chromatography
 - (B) Exclusion chromatography
 - (C) None of these
 - (D) Adsorption chromatography
- 5 Atomic mass and atomic number are continuously changes in
- (A) Stable compound
 - (B) Radioactive compound and Stable compound both
 - (C) None of these
 - (D) Radioactive compound

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

- 11 Which of the following is an optical instrument, except ?
(A) Colorimeter
(B) Spectrophotometer
(C) Microscope
(D) Electrophoresis
- 12 Absorption is directly proportional to
(A) Molecular weight of the substance
(B) Charged of the substance
(C) All of these
(D) Concentration of substance
- 13 A technique that separates substance under the influence of an electric field is called
(A) Electrophoresis
(B) Electro endosmosis
(C) TLC
(D) Chromatography
- 14 Which of the following is a separation technique, except ?
(A) Chromatography
(B) Colorimetry
(C) None of these
(D) Electrophoresis
- 15 Factors affecting the migration of charged particle are
(A) Charge
(B) pH of buffer
(C) All of these
(D) Voltage
- 16 An alkaline pH protein can move towards
(A) -ve charge
(B) Cathode
(C) None of these
(D) +ve charge
- 17 If distance between electrode is increased then migration of charged particle is
(A) Decrease
(B) Both Increase and Decrease
(C) None of these
(D) Increase

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

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

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

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