PU M Sc Bioinformatics

1 of 100
120 PU_2015_378
Turgor pressure is also referred to as:-

- pressure potential
- osmotic potential
- water potential
- solute potential

2 of 100
183 PU_2015_378
A class contains 10 male and 20 female students, of which half the male and half the female students have brown-eyes. What is the probability (p) that a student chosen at random is a male or has brown-eyes?

- 2/3
- 1/3
- 5/6
- 1/6

3 of 100
164 PU_2015_378
Water stored in a dam possesses:-

- kinetic energy
- potential energy
- electrical energy
- no energy

4 of 100
184 PU_2015_378
If the straight line y = mx+c passes through the point (2,4) and (-3,6) then the values of m and c are:-

- - 2/5, 24/5
- 2/5, 24/5
- -2/5, -24/5
- -2/5, -24/5

5 of 100
101 PU_2015_378
Nitrogen fixation is the conversion of atmospheric nitrogen into:-

- carbon dioxide
- urea

- ammonia
- protein

6 of 100

128 PU_2015_378

The urea cycle occurs in cell compartments:-

- mitochondrion and lysosome
- endoplasmic reticulum and Golgi complex
- mitochondrion and cytoplasm
- peroxisome and Golgi complex

7 of 100

203 PU_2015_378

A car starts from rest with a constant acceleration of 5 ms^{-2}. The velocity of that car after traveling for 1 km will be:-

- $\sqrt{10}\ ms^{-1}$
- $50\ ms^{-1}$
- $5\ ms^{-1}$
- $100\ ms^{-1}$

8 of 100

181 PU_2015_378

Three unbiased coins are tossed. What is the probability of getting at most two heads?

- 1/4
- 7/8
- 3/8
- 3/4

9 of 100

146 PU_2015_378

The orbital angular momentum of an electron in a 2S orbital is:-

- $\sqrt{2}\ h/2\ \pi$
- $h/2\pi$
- $1/2\times\ h/2\pi$
- zero

10 of 100

185 PU_2015_378

If $\log a/(b-c) = \log b/(c-a) = \log c/(a-b)$ then the value of abc is:-

- -1

- 1
- -2
- 2

11 of 100

123 PU_2015_378

While studying the plant *Arabidopsis*, a botanist finds that an RNA probe produces colored spots in the sepals of the plant. From this information, what can be inferred?

- The colored regions were caused by mutations that took place in the sepals
- The RNA probe is specific to a gene active in sepals
- The RNA probe is transported only to certain tissues
- More research needs to be done on the sepals of Arabidopsis

12 of 100

149 PU_2015_378

Following are given chemical elements found in the human body in decreasing concentration:-

- H<O<C<N
- O<C<N<H
- C<H<O<N
- C<O<H<N

13 of 100

209 PU_2015_378

With increasing focal length of the objective lens, the resolution of a telescope:-

- depends on the distance of the object
- remains same
- decreases
- increases

14 of 100

147 PU_2015_378

What is the unit for momentum?

- kg m s^{-1}
- kg m^{-3}
- kg m s^{-2}
- m s^{-2}

15 of 100

140 PU_2015_378

Which is not a characteristic of plant cell walls?

- Found only in the sporophyte phase of life cycle
- Among other compounds contains compounds built of simple sugars
- May contain enzymes that are biologically active
- Often contains strengthening polymers

16 of 100

127 PU_2015_378

What is the largest organelle in most mature living plant cells?

- mitochondrion
- central vacuole
- dictyosome (Golgi apparatus)
- nucleus

17 of 100

121 PU_2015_378

How does the H+ concentration of a solution with a pH of 5 compare to a solution with a pH of 3?

- Its H+ concentration is 100 times less
- Its H+ concentration is 100 times greater
- Its H+ concentration is 20 times greater
- Its H+ concentration is 1,000 times less

18 of 100

129 PU_2015_378

The promoter in the *lac* operon is:-

- a structural gene
- the region that binds RNA polymerase
- the region that binds the repressor
- the gene that codes for the repressor

19 of 100

108 PU_2015_378

Which of the following is NOT true for enzymes?

- enzymes change the rate at which biochemical reactions proceed
- enzymes often require the presence of cofactors to become active
- a enzyme activity is affected by changes in temperature
- enzymes are assembled from vitamin subunits

20 of 100

167 PU_2015_378

The time period of a simple pendulum in a spacecraft orbiting the earth is:-

- Infinity
- One second
- Two seconds
- Zero

21 of 100

204 PU_2015_378

Which of the following represents the relationship between magnetic, electric and optical wave propogation quantities?

- $c = 1/\sqrt{\mu_0 \varepsilon_0}$
- $c = (\mu_0 \varepsilon_0)^2$
- $c = (\mu_0 \varepsilon_0)$
- $c = \sqrt{(\mu_0 \varepsilon_0)}$

22 of 100

105 PU_2015_378

The chromosome having centromere at the tip are called as:-

- Telocentric
- Acrocentric
- Meta centric
- Sub meta-centric

23 of 100

165 PU_2015_378

Sound waves are:-

- Transverse in nature
- Longitudinal in nature
- Electromagnetic in nature
- Magnetic in nature

24 of 100

166 PU_2015_378

SI unit of frequency is:-

- Hertz
- m/s2
- Meter
- m/s

25 of 100

103 PU_2015_378

A function of transfer RNA is to:-

- transfer the genetic information from the nucleus to the cytoplasm
- store the genetic information in the nucleus
- position amino acids for protein synthesis by pairing with codons in messenger RNA
- receive the genetic information from nuclear DNA

26 of 100

206 PU_2015_378

The gradient of a scalar function is:-

- vector function
- undefined
- zero
- scalar function

27 of 100

169 PU_2015_378

In gases a sound wave is:-

- Transverse only
- Both Transverse and Longitudinal
- Longitudinal only
- Neither Transverse Nor Longitudinal

28 of 100

208 PU_2015_378

Materials with negative magnetic susceptibility are known as:-

- paramagnetic
- ferromagnetic
- non-magnetic
- diamagnetic

29 of 100

148 PU_2015_378

The time –independent Schrodinger equation is given by:-

- $\psi = E\psi$
- $H = E\psi$
- $H\psi = E\psi$
- $E = H\psi$

30 of 100

124 PU_2015_378

Which of the following is an example of a steroid?

- cholesterol
- phospholipid
- insulin
- unsaturated fats

31 of 100

188 PU_2015_378

In a moderately asymmetrical distribution, the mode and mean are 32.1 and 35.4, respectively. Then median is:-

- 31.3
- 34.3
- 32.3
- 30

32 of 100

107 PU_2015_378

The waste product in the urine of man is:-

- Ammonia
- Uric acid
- Uraemia
- Urea

33 of 100

109 PU_2015_378

In the classical model of transcriptional control described by Jacob and Monod, a repressor protein binds to:-

- an enhancer
- TATA box
- an AUG sequence
- an operator

34 of 100

162 PU_2015_378

The potential energy of a person is maximum:-

- sleeping on the ground
- sitting on the ground
- standing
- sitting on the chair

35 of 100

144 PU_2015_378
What was the first human genetic disease that was successfully treated with gene therapy?

- cystic fibrosis
- SCID (ADA deficiency)
- Down syndrome
- sickle-cell anemia

36 of 100

187 PU_2015_378
If tan A+ tan B = a and cot A + cot B=b then cot(A+B).

- 1/a -1/b
- a-b
- 1/a +1/b
- a+b

37 of 100

104 PU_2015_378
The cells that survived exposure to penicillin were most likely able to do so because they:-

- lacked cell walls
- had a more rapid metabolism than the other cells
- mutated as a result of the exposure
- already possessed penicillin resistance

38 of 100

106 PU_2015_378
In higher plant cells, a pigment important in the manufacture of carbohydrates from CO_2 and H_2O is contained in the:-

- chloroplast
- vacuole
- cytoplasm
- nucleus

39 of 100

205 PU_2015_378
The reflection coefficient R for a total internal reflection is:-

- $|R| = 2$
- $|R| = \infty$
- $|R| = 0$
- $|R| = 1$

40 of 100

200 PU_2015_378

A stationary charge can produce:-

- electric field only
- magnetic field only
- both electric and magnetic fields
- neither electric field nor magnetic field

41 of 100

186 PU_2015_378

If 20% of *a* = *b*, then *b* % of 20 is the same as:-

- 5% of a
- 4% of a
- 20% of a
- none of these

42 of 100

126 PU_2015_378

Which of the following is not a macronutrient?

- nitrogen
- calcium
- manganese
- sulfur

43 of 100

168 PU_2015_378

The product of time-period and frequency is:-

- zero
- unity
- infinity
- none of these

44 of 100

189 PU_2015_378

If $x=\log_{2a}a$, $y=\log_{3a}2a$ and $z=\log_{4a}3a$ then xyz+1 is:-

- 2yz
- yz
- 2xz
- 2xy

45 of 100

125 PU_2015_378

The specialized structures located at the end of eukaryotic chromosomes and act as a marker of cellular ageing are called:-

- Centromeres
- Terminators
- Telomeres
- Kinetochores

46 of 100

160 PU_2015_378

Work done by a body from Force-distance curve is:-

- Slope of the curve
- Area under the curve
- Line parallel to the Force axis
- Line parallel to the distance axis

47 of 100

145 PU_2015_378

Electric field intensity is 400 V m^{-1} at a distance of 2 m from a point charge. It will be 100 Vm^{-1} at a distance?

- 4 cm
- 50 cm
- 4 m
- 1.5 m

48 of 100

182 PU_2015_378

If A and B are two independent events such that P(A) = 0.5 and P(AUB)= 0.8 then P(B) is:-

- 0.6
- 0.3
- 0.2
- 0.4

49 of 100

207 PU_2015_378

If E and B represent the electric and magnetic vectors, then the direction of propagation of a light wave is along:-

- along the direction of E x B
- The direction of E
- the direction of B

- E x (E x B)

50 of 100

163 PU_2015_378

Power of a person is equal to:-

- work /time
- work x time
- time/work
- work /time x work

51 of 100

201 PU_2015_378

If a capacitor of capacity C is charged with charge Q at a potential of V, then the potential energy stored in the capacitor is:-

- CV
- ½ CV
- QV
- ½ QV

52 of 100

122 PU_2015_378

The plant hormone _____ plays a role in closing of stomata.

- gibberellin
- auxin
- cytochrome
- abscissic acid

53 of 100

161 PU_2015_378

When a spring is compressed work is done on it. Its elastic potential energy:-

- Disappears
- Decreases
- Increases
- Does not change

54 of 100

102 PU_2015_378

Which of the following organs secretes the hormone responsible for the fight or flight reaction in mammals?

- kidney
- pancreas

- adrenal gland
- liver

55 of 100

143 PU_2015_378

Capillary forces will lift water _____ in a glass tube equal to the diameter of a xylem element.

- 5.6 meters
- 8.3 meters
- 10.4 meters
- less than 1 meter

56 of 100

202 PU_2015_378

A gas is taken in a sealed container at 300 K. If it is heated at constant volume to a temperature of 900 K, the mean kinetic energy of its molecules is:-

- Increases by 9 times
- Decreases by 9 times
- Decreases by 3 times
- Increases by 3 times

57 of 100

180 PU_2015_378

The value of $\int \cos x/\sqrt{\sin x}\, dx$ is:-

- $2\sqrt{\cos x}+c$
- $\sqrt{\sin x}+c$
- $2\sqrt{\sin x}+c$
- $\sqrt{\cos x}+c$

58 of 100

141 PU_2015_378

Which might best be a chromophoric group?

- -SO4
- -NH3
- -N=N-
- -CHO

59 of 100

142 PU_2015_378

Which of the following is a coagulant?

- Ethanol

- Glutaraldehyde
- Osmium tetroxide
- Formaldehyde

60 of 100
100 PU_2015_378
Behavior that remains unaffected by environmental changes is most likely:-

- stereotyped
- innate
- territorial
- learned

61 of 100
259 PU_2015_378
In eukaryotes, translation is initiated by binding of ribosome to the:-

- 5'cap
- Pribnows box
- Hogness box
- poly A tail

62 of 100
241 PU_2015_378
Stereo-isomers:-

- are non-superimposable mirror images
- are mirror images
- have different chemical formula
- all the above

63 of 100
255 PU_2015_378
Which one of the following methods may infer more than one tree:-

- Maximum parsimony
- Maximum likelihood
- Neighbour joining
- UPGMA

64 of 100
233 PU_2015_378
Sugar is a:-

- Monosaccharide

- Nonsaccharide
- Disaccharide
- Polysaccharide

65 of 100
243 PU_2015_378
What is the nature of glucose-glucose linkage in starch that makes it so susceptible to acid hydrolysis?

- Starch is polymer
- Starch is acetal
- Starch is hemiacetal
- Starch contains only few molecules of glucose

66 of 100
244 PU_2015_378
The combination of pressure potential and solute potential is:-

- transpiration potential
- field potential
- water potential
- stem potential

67 of 100
256 PU_2015_378
The pathway of water from the soil through the plant to the atmosphere is best represented by which of the following sequences?

- epidermis - cortex - casparian strip - endodermis - sieve cells - intercellular spaces in the mesophyll - stomata
- casparian strip - root hairs - epidermis - cortex - xylem - endodermis - intercellular spaces in mesophyll - stomata
- endodermis- cortex - epidermis - vessel elements - intercellular spaces in mesophyll - stomata
- root hairs - cortex - endodermis - vessel elements - intercellular spaces in mesophyll - stomata

68 of 100
230 PU_2015_378
R – H represents which class of organic compounds?

- alcohols
- alkanes
- acids
- ethers

69 of 100
223 PU_2015_378

Which compounds are isomers?

- methanol and methanal
- n-propanol and iso-propanol
- ethane and ethanol
- ethanol and methanol

70 of 100

242 PU_2015_378

There are 20 naturally occurring amino acids. The maximum number of tripeptides that can be obtained is:-

- 5360
- 8000
- 6410
- 7465

71 of 100

220 PU_2015_378

Which one of the following is a covalent crystal?

- Ice
- Rock salt
- Quartz
- Dry ice

72 of 100

222 PU_2015_378

Among the following, the compound that contains ionic, covalent and coordinate linkage is:-

- NaCl
- NH_3
- CaO
- NH_4Cl

73 of 100

231 PU_2015_378

Cabohydrates are:-

- made up of amino acids
- source of energy
- hereditary molecules
- made up of pyrimidines

74 of 100

257 PU_2015_378
Wobble hypothesis is related to:-

- Fourth position of codon
- Third position of codon
- First position of codon
- Second position of codon

75 of 100

240 PU_2015_378
RNA contains:-

- peptide bond
- a deoxribose sugar
- a ribose sugar
- all the above

76 of 100

221 PU_2015_378
How many atoms are there in benzene?

- 6
- 10
- 12
- 14

77 of 100

258 PU_2015_378
eRF1 is the release factor in eukaryotes that requires:-

- ATP and GTP for its binding to ribosome
- ATP for its binding to ribosome
- GTP for its binding to ribosome
- Mn2+ for its binding to ribosome

78 of 100

232 PU_2015_378
Which atom pairs can form a polar covalent bond?

- H and Br
- N and N
- Na and Br
- H and H

79 of 100

224 PU_2015_378
Which property is generally characteristic of an organic compound?

- low melting point
- soluble in polar solvents
- insoluble in nonpolar solvents
- high melting point

80 of 100

234 PU_2015_378
Which is a peptide bond?

- –CO-NH-
- $–CH_2-O-CH_{2-}$
- $–CH_2-NH_2$
- $–CH_2-CH_{2-}$

81 of 100

285 PU_2015_378
In H_2SO_4 there are:-

- Both ionic and covalent bonds
- Covalent bond
- Ionic bond
- Ionic, covalent and coordinate bonds

82 of 100

280 PU_2015_378
In bacteria, double stranded circular DNA present and bacterial chromosomes are:-

- positively super coiled
- plasmids carry genes which are essential for normal cellular activities
- no super coiling is observed in bacterial chromosome
- negatively super coiled

83 of 100

286 PU_2015_378
Which of the following halogens has the highest bond energy?

- Cl_2
- F_2
- I_2
- Br_2

84 of 100

265 PU_2015_378
The reason that a column of water in a tall tree does not sink because of its weight is:-

- the tensile strength of a column of water
- the presence of strong ion concentrations near the top of the tree
- bubbles form that are too large to be transported
- the formation of hydrogen bonds with the plants vessels

85 of 100

282 PU_2015_378
A glass rod rubbed with silk acquires a charge of $+8 \times 10^{-12}$C. The Number of electrons it has gained or lost.

- 5×10^{-7} (gained)
- 5×10^{7} (lost)
- 2×10^{-8} (lost)
- -8×10^{-12} (lost)

86 of 100

263 PU_2015_378
In most plants, as K+ moves in or out of the guard cell to regulate the stomatal opening, there is movement in the opposite direction by:-

- Cl-
- OH-
- H+
- Na+

87 of 100

260 PU_2015_378
Hsp 60 and 70 are proteins involved in:-

- initiation of translation
- termination of translation
- protein folding
- elongation of translation

88 of 100

288 PU_2015_378
The term protein domain refers to:-

- The region on a protein that determines how it folds into a three dimensional structure
- A region in the cell where a protein can be found
- A segment of a protein that can fold independently into its own compact three-dimensional structure
- The functional activity of a protein

89 of 100
289 PU_2015_378
A car and lorry are moving with same momentum. If same brake force is applied then:-

- insufficient data to draw any conclusion
- car comes to rest in shorter distance
- lorry comes to rest in shorter distance
- both travels the same distance before coming to rest

90 of 100
268 PU_2015_378
Why is it more difficult to create transgenic animals than transgenic plants?

- It is more difficult to introduce foreign DNA into animal cells
- Animal cells cannot replicate foreign DNA
- Plants and animals use a different genetic code
- Animal cells cannot transcribe and translate foreign DNA.

91 of 100
262 PU_2015_378
One of the genes present exclusively on the X-chromosome in humans is concerned with:-

- Facial hair/moustache in males
- Baldness
- Red-green colour blindness
- Night blindness

92 of 100
287 PU_2015_378
What provides the necessary information to specify the 3-dimensional shape of a protein?

- The protein's interaction with molecular chaperones
- The protein's peptide bonds
- The protein's interactions with other polypeptides
- The protein's amino acid sequence

93 of 100
267 PU_2015_378
What is one result of an organism having meristems?

- production of a fixed number of segments during growth
- a rapid change from a vegetative state to a reproductive state
- a seasonal change in leaf morphology
- indeterminate, life-long growth

94 of 100
284 PU_2015_378
X- rays region lies between:-

- Short radio waves and visible light
- Visible light and ultraviolet regions
- Short radio waves and long radio waves
- Gamma rays and ultraviolet rays

95 of 100
261 PU_2015_378
Tetracycline blocks protein synthesis by:-

- inhibiting translocase enzyme
- inhibiting binding of aminoacyl tRNA to ribosome
- inhibiting initiation of translation
- inhibiting peptidyl transferase

96 of 100
269 PU_2015_378
Which hormone is commonly expressed in transgenic livestock to increase their growth and productivity?

- clotting factor VIIIe
- erythropoietin
- insulin
- bovine growth hormone

97 of 100
283 PU_2015_378
The Gauss unit is a measure of:-

- magnetic flux
- electric current
- magnetic field strength
- conductance

98 of 100
264 PU_2015_378
When a plant is flooded it often increases its:-

- cytokines
- Auxins
- ethylene
- gibberellins

99 of 100

266 PU_2015_378

The micronutrient, _____ is involved in carbohydrate transport and nucleic acid synthesis.

- zinc
- molybdinum
- boron
- copper

100 of 100

281 PU_2015_378

DNA replication and synthesis of histone proteins occur in:-

- G1 phase
- G2 phase
- M phase
- S phase

378 PU M Sc Bioinformatics

1 of 100
196 PU_2016_378_Bioinfo_E
In which of the processes, does the internal energy of the system remain constant?

- Isochoric
- Isobaric
- Isothermal
- Adiabatic

2 of 100
113 PU_2016_378_Bioinfo_E
Which of the following is not a conjugated protein?

- Peptone
- Phosphoprotein
- Chromoprotein
- Lipoprotein

3 of 100
151 PU_2016_378_Bioinfo_E
The orbitals are not occupied by:-

- 3 electrons
- 0 electrons
- 2 electrons
- 1 electrons

4 of 100
192 PU_2016_378_Bioinfo_E
If an electron and a proton have the same de-Broglie wavelength, then the kinetic energy of the proton is:-

- equal to that of the electron
- more than that of the electron
- zero
- less than that of the electron

5 of 100
135 PU_2016_378_Bioinfo_E
Following are given chemical elements found in the human body in decreasing concentration:-

- O<C<N<H
- C<O<H<N
- H<O<C<N

- C<H<O<N

6 of 100

101 PU_2016_378_Bioinfo_E

Arrange the following events of meiosis in the correct sequence:-

I. Terminalization
II. Crossing over
III. Synapsis
IV. Disjunction of genomes

- II, I, IV, III
- IV, III, II, I
- I, IV, III, II
- III, II, I, IV

7 of 100

172 PU_2016_378_Bioinfo_E

The smallest unit of life is:-

- DNA molecule
- Virus
- Cell
- Organelle

8 of 100

175 PU_2016_378_Bioinfo_E

A wheel of diameter 10 cm is rotating at 300 rpm. The linear velocity of a particle at its rim is:-

- 31.42 cm/s
- 314.2 cm/s
- 15.71 cm/s
- 157.1 cm/s

9 of 100

197 PU_2016_378_Bioinfo_E

Solar spectrum is an example for:-

- band absorption spectrum
- continuous emission spectrum
- line emission spectrum
- line absorption spectrum

10 of 100

171 PU_2016_378_Bioinfo_E

Balance the following chemical reaction:- $Fe + Cl_2 \rightarrow FeCl_3$

- $Fe + Cl_2 \rightarrow FeCl_3$
- $2Fe + 3Cl_2 \rightarrow 2FeCl_3$
- $2Fe + 2Cl_2 \rightarrow 2FeCl_3$
- $Fe + 3Cl_2 \rightarrow 2FeCl_3$

11 of 100

198 PU_2016_378_Bioinfo_E

The maximum kinetic energy of emitted electrons in a photoelectric effect does not depend upon:-

- frequency of the radiation
- wavelength of the radiation
- work function of the material
- intensity of the radiation

12 of 100

206 PU_2016_378_Bioinfo_E

The most abundant rare gas in the atmosphere is:-

- Ar
- Xe
- He
- Ne

13 of 100

202 PU_2016_378_Bioinfo_E

R - COO - R represents which class of organic compounds?

- acids
- esters
- ethers
- alcohols

14 of 100

213 PU_2016_378_Bioinfo_E

The main active constituent of tea and coffee is:-

- nicotine
- caffeine
- chlorophyll
- codine

15 of 100

112 PU_2016_378_Bioinfo_E
The sequence of cardiac cycle is:-

- Ventricular diastole - Diastole - Ventricular systole - Atrial systole
- Atrial systole - Ventricular diastole - Ventricular diastole
- Diastole - Atrial systole - Ventricular diastole
- Atrial systole - Ventricular systole - Joint diastole

16 of 100

219 PU_2016_378_Bioinfo_E
What is laughing gas?

- Nitrous Oxide
- Sulphur dioxide
- Hydrogen peroxide
- Carbon monoxide

17 of 100

116 PU_2016_378_Bioinfo_E
Which of the following apply to intercellular junctions?

- The three major adhesive junctions of animal cells are adherens junctions, desmosomes and hemidesmosomes
- Gap junctions and plasmodesmata are homologous structures
- Desmosomes and hemidesmosomes connect epithelial cells to their basement membrane and adjacent cells respectively
- The junctional complexes of gastrointestinal enterocytes ensure that nutrients are only absorbed through the spaces between the cells, which prevents them absorbing potentially harmful substances

18 of 100

131 PU_2016_378_Bioinfo_E
Speed of sound in vacuum is:-

- 340 m/s
- 300m/s
- 380m/s
- 600m/s

19 of 100

185 PU_2016_378_Bioinfo_E
Longitudinal strain is observed in the case of:-

- Liquid
- Gases
- Only solids

- Only gases & liquids

20 of 100

108 PU_2016_378_Bioinfo_E

Enzyme carbonic anhydrase, in _____ speeds up the reaction.

- Leucocytes
- Platelets
- Lymphocytes
- RBCs

21 of 100

126 PU_2016_378_Bioinfo_E

Formula to find the Force is:-

- a = Fm
- F = ma
- F = a/m
- F = m/a

22 of 100

188 PU_2016_378_Bioinfo_E

The spectrum of an oil flame is an example for:-

- line emission spectrum
- line absorption spectrum
- continuous emission spectrum
- continuous absorption spectrum

23 of 100

156 PU_2016_378_Bioinfo_E

An acid is:-

- Chemical species that donates hydrogen ions or protons
- Chemical species that accepts hydrogen ions or protons
- Chemical species that donates electron
- Liquid that can dissolve other matter

24 of 100

152 PU_2016_378_Bioinfo_E

What method of measuring angles (besides degrees) is used?

- Protractor
- Metric
- Angstrom

- Radians

25 of 100
168 PU_2016_378_Bioinfo_E
The process of forming curd is called:-

- Reduction reaction
- Condensation reaction
- Sublimation reaction
- Fermentation reaction

26 of 100
105 PU_2016_378_Bioinfo_E
Read the statements A and B.

A) The human small intestine is the longest portion in the alimentary canal
B) Absorption of digested food requires a very large surface area

Identify the correct choice on the two statements.

- Statements A and B are both correct
- Statements B is correct and A is wrong
- Statements A is correct and B is wrong
- Both statements are wrong

27 of 100
127 PU_2016_378_Bioinfo_E
A passenger in a moving train tosses a coin which falls:-

- In front of him
- Will not move
- Falls outside the train
- Behind him

28 of 100
134 PU_2016_378_Bioinfo_E
According to the second law of thermodynamics, energy tends to become more and more unavailable for conversion from:-

- Mechanical to thermal energy
- Thermal to kinetic energy
- Kinetic to thermal energy
- Thermal to mechanical energy

29 of 100
193 PU_2016_378_Bioinfo_E

If 1 kg block of a material was given 10 kcal of heat to rise its temperature from 20°C to 40°C, what is the specific heat of that material [in kcat/(kg°C)]?

- 0.05
- 2
- 20
- 0.5

30 of 100

180 PU_2016_378_Bioinfo_E

A molecule of mass m moving with a velocity v makes 5 elastic collisions with a wall of the container per second. The change in its momentum per second will be:-

- mv/5
- 5 mv
- 10 mv
- mv

31 of 100

215 PU_2016_378_Bioinfo_E

The chemical (ethyl mercaptan) added to the otherwise odourless LPG cooking gas for imparting a detectable smell to the gas is a compound of:-

- fluorine
- sulphur
- chlorine
- bromine

32 of 100

138 PU_2016_378_Bioinfo_E

The time period of a simple pendulum in a spacecraft orbiting the earth is:-

- Two seconds
- One second
- Infinity
- Zero

33 of 100

139 PU_2016_378_Bioinfo_E

The term bioinformatics was coined by:-

- Frederic Sanger
- Pauline Hogeweg
- Margaret Dayhoff
- JD Watson

34 of 100
120 PU_2016_378_Bioinfo_E
In the biosynthesis of cortisol, the sequence of enzymes involved is:-

- Isomerase-lyase-hydroxylase-dehydrogenase
- Hydroxylase-lyase-dehydrogenase isomerase
- Hydroxylase-dehydrogenase + isomerase-hydroxylase
- Dehydrogenase-hydroxylase-isomerase

35 of 100
201 PU_2016_378_Bioinfo_E
Which compound is a saturated hydrocarbon?

- ethanol
- ethene
- ethyne
- ethane

36 of 100
184 PU_2016_378_Bioinfo_E
The velocity of sound in vacuum is:-

- 330 m/s
- 156 m/s
- Zero
- 27.5 m/s

37 of 100
209 PU_2016_378_Bioinfo_E
The most electropositive elements among the following is:-

- Cs
- K
- Na
- Ca

38 of 100
176 PU_2016_378_Bioinfo_E
The angle of banking angle of a vehicle is independent of:-

- radius of curvature of road
- velocity of vehicle
- height of inclination
- mass of vehicle

39 of 100

210 PU_2016_378_Bioinfo_E

The human body is made up of several chemical elements; the element present in the highest proportion (65%) in the body is:-

- nitrogen
- oxygen
- carbon
- hydrogen

40 of 100

160 PU_2016_378_Bioinfo_E

Which of the following gives correct correlation between wave number and wave length?

- Wavelength in nanometers = 1/wavenumber
- Wavenumber = 1/wavelength in cm
- Wavenumber = 1/wavelength in nm
- Wavenumber = wavelength in m^{-1}

41 of 100

109 PU_2016_378_Bioinfo_E

Which one of the following is an example of negative feedback loop in humans?

- Constriction of skin blood vessels and contraction of skeletal muscles when it is too cold
- Salivation of mouth at the sight of delicious food
- Secretion of tears after falling of sand particles into the eyes
- Secretion of sweat glands and constriction of skin blood vessels when it is too hot

42 of 100

214 PU_2016_378_Bioinfo_E

Sodium metal is kept under:-

- kerosene
- water
- petrol
- alcohol

43 of 100

205 PU_2016_378_Bioinfo_E

pH is a measure of:-

- pressure of hydrogen
- hydroxyl ion concentration
- hydrogen ion concentration

- All of the above

44 of 100

189 PU_2016_378_Bioinfo_E

A charge Q is enclosed by a Gaussian spherical surface of radius R. If the radius is doubled, then the outward electric flux will:-

- Be doubled
- Increase four times
- Be reduced to half
- Remain the same

45 of 100

146 PU_2016_378_Bioinfo_E

Types of bond between C terminal and N terminal is:-

- a) Covalent
- b) Peptide bond
- c) Ionic bonds
- d) Both (a) and (b)

46 of 100

142 PU_2016_378_Bioinfo_E

The term protein domain refers to:-

- The functional activity of a protein
- A region in the cell where a protein can be found
- The region on a protein that determines how it folds into a three dimensional structure
- A segment of a protein that can fold independently into its own compact, three-dimensional structure

47 of 100

117 PU_2016_378_Bioinfo_E

An uncoupler of oxidative phosphorylation such as dinitrophenol:-

- Inhibits electron transport without impairment of ATP synthesis
- Specially inhibits cytochrome b
- Inhibits electron transport and ATP synthesis
- Allow electron transport to proceed without ATP synthesis

48 of 100

218 PU_2016_378_Bioinfo_E

Geometrical isomers have:-

- same biological function
- same chemical formula

- same chemical and physical properties
- same physical properties

49 of 100

163 PU_2016_378_Bioinfo_E

The bond between hydrogen and oxygen in water is:-

- Covalent and nonpolar
- Ionic and polar
- Non ionic and polar
- Covalent and polar

50 of 100

148 PU_2016_378_Bioinfo_E

The brain fluid contains:-

- Nucleus
- Cell Membrane
- Cytoplasm
- Mitochondria

51 of 100

100 PU_2016_378_Bioinfo_E

Cells in G0 phase of cell cycle:-

- Enter cell cycle
- Suspend cell cycle
- Exit cell cycle
- Terminate cell cycle

52 of 100

130 PU_2016_378_Bioinfo_E

The force acting on an object perpendicular to the surface is called:-

- Pressure
- Weight
- Thrust
- Weight

53 of 100

143 PU_2016_378_Bioinfo_E

Absorbance at 280nm exhibited by protein is due to:-

- All amino acids
- Aromatic amino acids

- Aliphatic amino acids
- Non-polar amino acids

54 of 100

155 PU_2016_378_Bioinfo_E

The lowest principle quantum number for an electron is:-

- 4
- 1
- 2
- 0

55 of 100

179 PU_2016_378_Bioinfo_E

If C_P - C_V is 'a' for hydrogen gas and 'b' for oxygen, then a and b are related to each other as:-

- a = 16 b
- a = b
- a = 4 b
- 16 a = b

56 of 100

159 PU_2016_378_Bioinfo_E

L and D form is described by based on the structure of:-

- Alanine
- Methanol
- Silver
- Glyceraldehyde

57 of 100

164 PU_2016_378_Bioinfo_E

What is the energy called that could give stability to the aromatic compounds?

- Resonance
- Kinetic
- Ionisation
- Potential

58 of 100

121 PU_2016_378_Bioinfo_E

The antibiotic which has a structure similar to the amino acyl end of tRNA tyrosine is:-

- Puromycin
- Mitomycin-C

- Actinomycin-D
- Streptomycin

59 of 100

167 PU_2016_378_Bioinfo_E

Which of the following has 8 protons and 10 electrons?

- O^{2-}
- F^{-}
- N^{3-}
- O^{3-}

60 of 100

104 PU_2016_378_Bioinfo_E

Match column I with column II and choose the correct option:-

Column-I	Column-II
i. Goblet cells	a. Antibacterial agent
ii. Lysozyme	b. Mucus
iii. Saliva	c. HCl
iv. Oxyntic cells	d. Sublingual gland

- i-a, ii-c, iii- d, iv- b
- i-d, ii-a, iii-b, iv-c
- i-b, ii-c, iii- a, iv-d
- i-b, ii-a, iii-d, iv-c

61 of 100

234 PU_2016_378_Bioinfo_M

Which enzyme removes the RNA primer and fills in deoxyribonucleotides in prokaryotic replicase?

- DNA polymerase III
- Exonuclease
- DNA polymerase II
- DNA polymerase I

62 of 100

220 PU_2016_378_Bioinfo_M

In normal phase HPLC, there is a:-

- non polar solvent/polar column
- polar solvent/non-polar column
- non polar solvent/non-polar column
- polar solvent only

63 of 100
253 PU_2016_378_Bioinfo_M
If cosA=0.6 then 5 sinA - 3 tanA is equal to:-

- 0
- 2
- 8
- 1

64 of 100
229 PU_2016_378_Bioinfo_M
Membranes of the following two organelles are contiguous:-

- ER and Golgi
- Golgi and lysosomes
- nucleus and ER
- Golgi and plasma membrane

65 of 100
225 PU_2016_378_Bioinfo_M
N-Glycosyl linkage joins 1st carbon of pentose sugar with:-

- N3 of pyrimidine
- N9 of pyrimidine
- N3 of purine
- N9 of purine

66 of 100
237 PU_2016_378_Bioinfo_M
In prokaryotes the lagging strand primers are removed by:-

- 3' to 5' exonuclease
- DNA polymerase I
- DNA polymerase III
- DNA ligase

67 of 100
221 PU_2016_378_Bioinfo_M
In aqueous solution glucose remains as:-

- Only in pyranose form
- Only in furanose forms
- In all three forms in equilibrium
- Only in open chain form

68 of 100

242 PU_2016_378_Bioinfo_M

Which of the following statement is incorrect?

- histones are highly conserved protein
- H1 is the linker histone
- histones are small basic proteins associated with acidic DNA
- nucleosome has one copies of each core histones

69 of 100

257 PU_2016_378_Bioinfo_M

A letter is chosen at random from the letters in the word "PROBABILITY". What is the probability that the letter will be a B or a vowel?

- 2/11
- 5/11
- 6/11
- 7/11

70 of 100

246 PU_2016_378_Bioinfo_M

Autoclaves are routinely used in laboratories for sterilization. It acts by:-

- disrupting cell membranes, denaturing proteins, changing physically membrane lipids
- denaturing proteins
- changing physically membrane lipids
- disrupting cell membranes

71 of 100

250 PU_2016_378_Bioinfo_M

Two vertices of a triangle are P(1,1), B(2,-3). If its centroid is (2,1) find the third vertex.

- 5,3
- 1,5
- 2,5
- 3,5

72 of 100

249 PU_2016_378_Bioinfo_M

Archaeal cells usually do not contain peptidoglycan, rather contain pseudopeptidoglycan which is mainly composed of:-

- N-acelylmuramic acid and L-amino acids
- N-acetylalosaminuronic acid and D-amino acid
- N-acetylmuramic acid and D-amino acid

- N-acetylalosaminuronic acid and L-amino acid

73 of 100
224 PU_2016_378_Bioinfo_M
Theoretical plates in HPCL are used to:-

- determine the thickness of the stationary phase
- measure the distribution of the analyte between mobile and stationary phases
- estimate the efficiency of a column
- None of the above

74 of 100
238 PU_2016_378_Bioinfo_M
Which of the following statement about histones is not true?

- histones are rich in lysine and arginine
- histones are very similar between species
- each histone has one single gene that codes for it
- histones have many basic amino acids

75 of 100
233 PU_2016_378_Bioinfo_M
Prokaryotic plasmids can replicate in yeast cells if they contain a cloned yeast:-

- CDk
- ORC
- RNA
- ARS

76 of 100
254 PU_2016_378_Bioinfo_M
Which of the following is not defined?

- cosec 0°
- sin 90°
- cos 90°
- tan 0°

77 of 100
245 PU_2016_378_Bioinfo_M
'Kozak' is associated with:-

- transcription
- DNA replication
- DNA repair

- translation

78 of 100

228 PU_2016_378_Bioinfo_M

Colchicine treated cells are arrested in:-

- S phase
- metaphase
- G1 phase
- prophase

79 of 100

258 PU_2016_378_Bioinfo_M

Three numbers x, y and z are in the ratio 1:2:3. Their average is 600. If x is increase by 10% and y is decreased by 20%, then by how much will be z be increased to get the average increased by 5%?

- 180
- 190
- 200
- 160

80 of 100

241 PU_2016_378_Bioinfo_M

NOR (Nucleolus Organizing Regions) occurs in the region of:-

- telomere
- primary constriction
- centromere
- secondary constriction

81 of 100

262 PU_2016_378_Bioinfo_D

A number consists of 3 digits whose sum is 10. The middle digit is equal to the sum of the other two and the number will be increased by 99 if its digits are reversed. The number is:-

- 145
- 370
- 253
- 352

82 of 100

298 PU_2016_378_Bioinfo_D

A microprocessor unit, a memory unit, and an input/output unit form a/an:-

- ALU
- Microcomputer

- Compiler
- CPU

83 of 100

291 PU_2016_378_Bioinfo_D

Which of the following approach is adapted by C++?

- Top-down
- Right-left
- Bottom-up
- Left-right

84 of 100

287 PU_2016_378_Bioinfo_D

Which of the following concepts means determining at runtime what method to invoke?

- Dynamic loading
- Data hiding
- Dynamic binding
- Dynamic Typing

85 of 100

275 PU_2016_378_Bioinfo_D

The gross yield of ATP from one molecule of glucose processed through glycolysis and cellular respiration is:-

- 38
- 36
- 42
- 40

86 of 100

283 PU_2016_378_Bioinfo_D

The part of brain dramatically increased in size and associated with incredible intellect in human is:-

- Cerebral cortex
- Amygdala
- Hypothalamus
- Hippocampus

87 of 100

292 PU_2016_378_Bioinfo_D

Which of the following concepts means wrapping up of data and functions together?

- Inheritance

- Encapsulation
- Polymorphism
- Abstraction

88 of 100

278 PU_2016_378_Bioinfo_D

Immediate hypersensitivity occurs due to:-

- IgE
- IgM
- IgG
- IgD

89 of 100

295 PU_2016_378_Bioinfo_D

Which of the following header file includes definition of cin and cout?

- iomanip.h
- iostream.h
- istream.h
- ostream.h

90 of 100

266 PU_2016_378_Bioinfo_D

If the area of region bounded by the inscribed and circumscribed circles of a square is 9π, then the area of the square will be:-

- 6π
- 25
- 4π
- 36

91 of 100

280 PU_2016_378_Bioinfo_D

The first terrestrial arthropods appeared in:-

- Devonian
- Ordovician
- Carboniferous
- Silurian

92 of 100

296 PU_2016_378_Bioinfo_D

Which of the following provides a reuse mechanism?

- Encapsulation
- Inheritance
- Dynamic binding
- Abstraction

93 of 100
284 PU_2016_378_Bioinfo_D
SQL stands for _____.

- Sequential Question Language
- Structured Question Language
- Structured Query Language
- Sequential Query Language

94 of 100
265 PU_2016_378_Bioinfo_D
If (2,6) is one of the extremities of a diameter of a circle with centre (3,5), then the other point is:-

- 3,4
- 2,2
- 4,4
- 4,3

95 of 100
299 PU_2016_378_Bioinfo_D
'.MOV' extension refers usually to what kind of file?

- Animation/movie file
- MS Office document
- Image file
- Audio file

96 of 100
270 PU_2016_378_Bioinfo_D
The empirical relationship between mean, median and mode is:-

- Mean > Median > Mode
- Mean - Mode = 3 (Mean - Median)
- Mean < Median < Mode
- Mode - Mean = 3 (Median - Mean)

97 of 100
288 PU_2016_378_Bioinfo_D
cout is a/an _____.

- Function
- Object
- Operator
- Macro

98 of 100

261 PU_2016_378_Bioinfo_D

If P(A) = 0.35, P(B) = 0.73 and P(A ∩ B) = 0.14 then P(A∪B) is equal to:-

- 0.64
- 0.54
- 0.94
- 0.90

99 of 100

271 PU_2016_378_Bioinfo_D

If α, β, γ be the roots of the equation $x^3 + px + q = 0$ then the value of $\sum\alpha^2\beta$ is:-

- 3p
- 3q
- 3
- 3pq

100 of 100

274 PU_2016_378_Bioinfo_D

A can solve 80% of the problems given in a book and B can solve 60%. What is the probability that at least one of them will solve a problem selected at random from the book?

- 12/25
- 11/25
- 23/25
- 97/100

Sr No.	MSc Bioinformatics
1	In the series 357,363,369,……. What will be the 10th term?
Alt1	405
Alt2	411
Alt3	413
Alt4	417

2	Choose word from the given options which bears the same relationship to the third word, as the first two bears: Moon: Satellite :: Earth : ?
Alt1	Sun
Alt2	Planet
Alt3	Solar System
Alt4	Asteroid

3	Door is related to Bang in the same way as Chain is related to ……..?……
Alt1	Thunder
Alt2	Clinch
Alt3	Tinkle
Alt4	Clank

4	Select the lettered pair that has the same relationship as the original pair of words: Emollient: Soothe
Alt1	Dynamo: Generate
Alt2	Elevation: Level
Alt3	Hurricane: Track
Alt4	Precipitation: Fall

5	Which of the following is the same as Count, List, Weight?
Alt1	Compare
Alt2	Sequence
Alt3	Number
Alt4	Measure

6	Spot the defective segment from the following:
Alt1	The downtrodden
Alt2	needs
Alt3	to be uplifted
Alt4	on a war footing

7	Choose the meaning of the idiom/phrase from among the options given: A close shave
Alt1	a nice glance
Alt2	a narrow escape
Alt3	an intimate
Alt4	a triviality

8	Lightning ------- in the same place twice.
Alt1	doesn't hit
Alt2	never strikes
Alt3	never attacks
Alt4	never falls

9	Choose the option closest in meaning to the given word: FLIPPANT
Alt1	serious
Alt2	unsteady
Alt3	irreverent
Alt4	caustic

10	Choose the antonymous option you consider the best: OBSOLETE
Alt1	obscure
Alt2	hackneyed
Alt3	current
Alt4	grasp

11	Akash scored 73 marks in subject A. He scored 56% marks in subject B and X marks in subject C. Maximum marks in each subject were 150. The overall percentage marks obtained by Akash in sall te three subjects were 54%. How many marks did he score in subject C ?
Alt1	84
Alt2	86
Alt3	79
Alt4	73

12	~
Alt1	7 Km
Alt2	15 Km
Alt3	23 Km
Alt4	19 Km

13	If 1st Jan 2012 is a Tuesday then on which day of the week will 1st Jan 2013 fall ?
Alt1	Wednesday
Alt2	Thursday
Alt3	Friday
Alt4	Saturday

14	One morning after sunrise, Reeta and Kavita were talking to each other face to face at University. If Kavita' shadow was exactly to the right of Reeta, which direction was Kavita facing ?
Alt1	North
Alt2	South
Alt3	East
Alt4	West

15	In an exam every candidate took History (or)Geography(or)both. 74.8%took History and 50.2% took Geography. If the Total number of candidates is 1500,how many took History and Geography both?
Alt1	400
Alt2	350
Alt3	750
Alt4	375

16	Which word includes the larger % of Vowels?
Alt1	GOOGLE
Alt2	AMAZON
Alt3	FACE BOOK
Alt4	DOE

17	A= Least prime >24; B=Greatest prime <28; Then
Alt1	A>B
Alt2	A<B
Alt3	A=B
Alt4	None

18	CL X VIII refers
Alt1	861
Alt2	701
Alt3	168
Alt4	107

19	Which of the following is larger than 3/5 ?
Alt1	1/2
Alt2	39/50
Alt3	7/25
Alt4	59/100

20	Mr. Babu travelled 1200 km by air which formed 2/5 of his trip. One third of the whole trip, he travelled by car and the rest of the journey was by train. What was the distance travelled by train?
Alt1	600km
Alt2	700 km
Alt3	800 km
Alt4	900 km

21	You have a protein sequence. You want to know the structure of similar proteins. You should use:
Alt1	BLASTN
Alt2	BLASTX
Alt3	BLASTP
Alt4	TBLASTN

22	The approach that can be used to predict the 3D structure of a protein which has no detectable sequence similarity with the available templates is
Alt1	Homology modeling
Alt2	Comparative modeling
Alt3	Fold recognition
Alt4	ab initio modelling

23	The information retrieval tool for NCBI GenBank data base is
Alt1	Entrez
Alt2	STAG
Alt3	Seqln
Alt4	Text search

24	The graphs of the two linear equations ax + by = c and bx - ay = c, where a, b and c are all not equal to zero:
Alt1	Are parallel
Alt2	Intersect at one point
Alt3	Intersect at two points
Alt4	Perpendicular

25	When a metallic ball is placed inside a cylindrical container, of radius 2 cm, the height of the water, inside the container, increases by 0.6 cm. The radius (to the nearest tenth of a centimeter) of the ball is
Alt1	1 cm
Alt2	1.2 cm
Alt3	2 cm
Alt4	0.6 cm

26	On Ramachandran plot, one amino acid shows phi/psi angle around -75° and -60º. This amino acid should be on a
Alt1	Right handed helix
Alt2	Left handed helix
Alt3	Parallel beta sheet
Alt4	Anti parallel beta sheet

27	The technique of insertion of a desired gene into DNA of a plasmid is
Alt1	Gene splicing

Alt2	Gene dressing
Alt3	Gene cloning
Alt4	Gene drafting

28	Pigment responsible for red colour of tomatoes is
Alt1	Melanin
Alt2	Lycopene
Alt3	Bilirubin
Alt4	Chlorophyll

29	Phase of the cell cycle during which DNA synthesis occurs is
Alt1	G0 phase
Alt2	S phase
Alt3	M phase
Alt4	G1/G2 phase

30	Polycistronic mRNA refers to
Alt1	mRNA which is transcribed by multiple RNA polymerases
Alt2	mRNAs that are simultaneously translated
Alt3	mRNA that is translated by many ribosomes simultaneously
Alt4	mRNA which encodes two or more proteins

31	A thermosflask contains 250 g of tea at 90ºC. To this, 20 g of milk at 5ºC is added. After mixing, what would be the temperature of the mix? (Assume no heat loss. Specific heat of tea and milk as 1 cal/g ºC)
Alt1	3.78ºC
Alt2	8.37ºC
Alt3	37.8ºC
Alt4	83.7ºC

32	Full form of URL is
Alt1	Uniform Resource Locator
Alt2	Uniform Resource Link
Alt3	Uniform Registered Link
Alt4	Unified Resource Link

33	LINUX is a
Alt1	Malware
Alt2	Operating System

Alt3	Application Program
Alt4	Firmware

34	According to the Beer-Lambert Law, on which of the following absorbance does not depend?
Alt1	Concentration of the solution
Alt2	Colour of the solution
Alt3	Distance that the light has travelled through the sample
Alt4	Extinction coefficient of the sample

35	For a spontaneous biochemical reaction, overall Gibb's free energy should be
Alt1	Positive
Alt2	Negative
Alt3	No change
Alt4	Biochemical reaction and Gibb's free energy has no relationship

36	Which pair of amino acids absorbs the most UV light at 280 nm?
Alt1	Thr and His
Alt2	Trp and Tyr
Alt3	Cys and Asp
Alt4	Phe and Pro

37	To produce artificial rains, which chemical is used for Cloud Seeding ?
Alt1	Copper Sulphate
Alt2	Ammonium Nitrate
Alt3	Silver Iodide
Alt4	Potassium Premanganate

38	What is the mass (in g) of Na₂CO₃ (molecular mass 106) present in 250 ml of its 0.2M solution?
Alt1	0.53
Alt2	1.06
Alt3	5.3
Alt4	10.6

39	Which of the following enzymes is the first to mix with food in the digestive tract?
Alt1	Pepsin
Alt2	Ptyalin
Alt3	Trypsin
Alt4	Lipase

40	Bacterium used extensively as biopestiside is
Alt1	Bacillus subtilis
Alt2	Escherichia coli
Alt3	Lactobacillus acidophilus
Alt4	Bacillus thuringiensis

41	What is the shape of a typical plot of initial rate vs. substrate concentration for an enzyme catalyzed reaction that follows Michaelis-Menton kinetics?
Alt1	Sigmoidal
Alt2	Parabolic
Alt3	Sinusoidal
Alt4	Hyperbolic

42	Why SDS is used for PAGE?
Alt1	To denature the protein and make the protein overall positive
Alt2	To denature the protein so that it precipitates out
Alt3	To denature the protein and make the protein overall negative
Alt4	To stabilize the protein and to make it more soluble

43	Restriction enzyme EcoRI cleaves DNA at a sequence
Alt1	AAGCTT
Alt2	AAGTTC
Alt3	GAATTC
Alt4	GTAATC

44	The first step of PCR is
Alt1	Annealing
Alt2	Ligation
Alt3	Denaturation
Alt4	Primer extension

45	Cause of Sickle cell anemia is
Alt1	Mutation of a glutamate to valine on beta-globin chain of hemoglobin
Alt2	Mutation of a glutamate to valine on alpha-globin chain of hemoglobin
Alt3	Mutation of a valine to glutamate on beta-globin chain of hemoglobin
Alt4	Mutation of a valine to glutamate on alpha-globin chain of hemoglobin

46	How many different amino acids are used in making proteins?
Alt1	11
Alt2	17
Alt3	20
Alt4	31

47	Which parts of amino acids are involved in peptide bonds?
Alt1	The carboxyl group on one amino acid and the side chain on the other
Alt2	The carboxyl group on both amino acids
Alt3	The amino group on one amino acid and the carboxyl group on the other
Alt4	The amino group on both amino acids

48	A simple harmonic oscillator may absorb energy
Alt1	At any time
Alt2	When the frequencies match exactly
Alt3	When the amplitudes are the same
Alt4	At no time

49	Unit of Pressure is
Alt1	Newton second
Alt2	Pascal
Alt3	Watt
Alt4	Newton per meter

50	What are audible sound waves ?
Alt1	Having frequencies less than 20 Hz
Alt2	Having frequencies between 20 Hz to 20000 Hz
Alt3	Having frequencies more than 20000 Hz

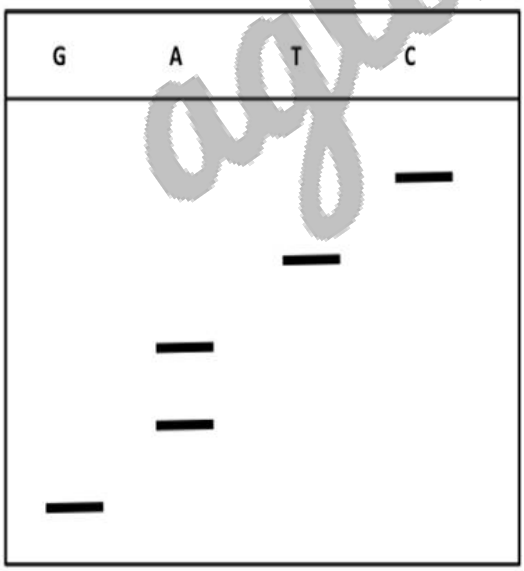
Alt4	Having frequencies less than 20 Hz and more than 20000 Hz

51	During the process of cell fractionation, rough ER forms small vesicles known as
Alt1	Glyoxysomes
Alt2	Microsomes
Alt3	Peroxisomes
Alt4	Dictyosomes

52	The Chromatographic technique used to purify mRNA
Alt1	Paper Chromatography
Alt2	Thin layer Chromatography
Alt3	Affinity Chromatography
Alt4	Gel filtration Chromatography

53	The gas other than CO2, responsible for green house effect
Alt1	CO
Alt2	SO2
Alt3	CH4
Alt4	N2

54	The dye used in the separation of protein by PAGE
Alt1	Bromophenol blue
Alt2	Crystal violet
Alt3	Malachite green
Alt4	Ethidium bromide

55	Half life period of a radioactive element is 5 years. Calculate the time taken for the conversion of 180 grams of the sample to 22.5 grams
	
Alt1	5 Years
Alt2	10 Years
Alt3	15 Years

Alt4	2.5 Years

56	1 Angstrom is equal to
Alt1	0.1 Nanometre
Alt2	0.01 Nanometre
Alt3	0.001 Nanometre
Alt4	10 Nanometre

57	Melting temperature of DNA is the temperature at which
Alt1	10% of the DNA is denatured
Alt2	50% of the DNA is denatured
Alt3	90% of the DNA is denatured
Alt4	100% of the DNA is denatured

58	The two components of a Lichen association
Alt1	Fungus and bryophyte
Alt2	Fungus and Algae
Alt3	Algae and bryophyte
Alt4	Algae and Bacteria

59	A double stranded DNA molecule with 6390 base pairs long will have the following number of turns
Alt1	6390
Alt2	639
Alt3	63.9
Alt4	6.39

60	The mode of action of Chloramphenicol in bacteria is to inhibit
Alt1	Cell wall synthesis
Alt2	DNA synthesis
Alt3	RNA synthesis
Alt4	Protein synthesis

61	DNA of a bacterium is not cleaved by its own restriction enzymes because the recognition DNA sequences are
Alt1	Deleted
Alt2	Bound by inhibitory proteins
Alt3	Methylated
Alt4	Nor accessible to restriction enzymes

62	PCR technique was developed by
Alt1	Peter Mitchell
Alt2	Robert Koach
Alt3	Mc Clintock
Alt4	Kary Mullis

63	The initiation codon AUG codes for

Alt1	Alanine
Alt2	Valine
Alt3	Methionine
Alt4	Tryptophan

64	The first mammal successfully cloned from an adult cell
Alt1	Dog
Alt2	Cat
Alt3	Sheep
Alt4	Buffalo

65	The first working draft of Human genome was published in the year
Alt1	2000
Alt2	2001
Alt3	2003
Alt4	2004

66	Full form of URL in computer language
Alt1	Uniform Resource Link
Alt2	Unified Resource Link
Alt3	Uniform Resource Locator
Alt4	Uniform Registered Link

67	In which stage of the cell cycle “Synapsis” occurs
Alt1	Leptotene
Alt2	Zygotene
Alt3	Pachytene
Alt4	Diplotene

68	How many different amino acids could be encoded by nucleic acids containing four different nucleotides, if four nucleotides coded for one amino acid
Alt1	4
Alt2	16
Alt3	64
Alt4	256

69	According to Francis Crick Wobble Hypothesis, the Wobble position is
Alt1	First position of the codon
Alt2	Second position of the codon
Alt3	Third position of the codon
Alt4	Not exist in the codon

70	Baculovirus vectors are used to transfer genes into
Alt1	Mammalian cells
Alt2	Plant cells
Alt3	Insect cells
Alt4	Bacterial cells

71	Which of the following is true about a double stranded DNA genome which contain 32% adenine
Alt1	The genome contain 16% guanine
Alt2	The genome contain 32% guanine
Alt3	The genome contain 18% guanine
Alt4	The genome contain 64% guanine

72	The first DNA-genome sequenced
Alt1	Haemophilus influenzae
Alt2	Phage Φ-X174
Alt3	Yeast chromosome 3
Alt4	Arabidopsis thaliana

73	The programme used to translate the submitted nucleotide sequence into amino acid sequence and compares the latter with a protein database
Alt1	BLASTx
Alt2	BLASTn
Alt3	tBLASTn
Alt4	tBLASTx

74	A bag contains 4 red, 5 green and 7 yellow balls. If 2 balls are picked simultaneously in a random manner from the bag, the probability of both being green is:
Alt1	1/16
Alt2	1/8
Alt3	1/12
Alt4	5/16

75	A student sequenced a DNA using Sanger‟s method and obtained the following autoradiogram. The sequence of DNA is:
Alt1	5’ CTTAG 3’
Alt2	5’ GAATC 3’
Alt3	5’ CTAAG 3’
Alt4	5’ AATTG 3’

76	When ΔH, ΔS and ΔG (at low temperature) are positive, the reaction is
Alt1	Spontaneous at high temperature
Alt2	Nonspontaneous at high temperature
Alt3	Spontaneous at low temperature
Alt4	Nonspontaneous at low temperature

77	The urea cycle occurs in the:
Alt1	Mitochondrion and cytoplasm
Alt2	Mitochondrion and lysosome
Alt3	Golgi complex
Alt4	Peroxisome

78	The entropy is greatest high in:

Alt1	Ice
Alt2	Water vapor
Alt3	Liquid water at 37˚C
Alt4	Liquid water at 0 ˚C

79	T cell maturation site is:
Alt1	Spleen
Alt2	Thymus
Alt3	Bone marrow
Alt4	Appendix

80	Wobble hypothesis was proposed by
Alt1	Watson
Alt2	Holley
Alt3	Crick
Alt4	Dayhoff

81	The process by which introns are removed:
Alt1	Transition
Alt2	Translation
Alt3	Transcription
Alt4	Splicing

82	Which of the following is a protein sequence databases?
Alt1	DDBJ
Alt2	GenBank
Alt3	UniProt
Alt4	EMBL

83	Which are the most stable component of a protein structure?
Alt1	β-sheets
Alt2	α-helix
Alt3	Turn
Alt4	310-helix

84	The computational methodology that tries to find the best matching between two molecules, a protein and a ligand is called:
Alt1	Molecular matching
Alt2	Molecular fitting
Alt3	Molecular modelling
Alt4	Molecular Docking

85	A compound that has desirable properties to become a drug
Alt1	Lead molecule
Alt2	Fit compound
Alt3	Small molecule
Alt4	Receptor

86	NCBI stands for?
Alt1	National Center for Bioinformatics Information
Alt2	National Center for Biological Information
Alt3	National Center for Biotechnology Information
Alt4	Both B and C

87	The SI unit of moment is
Alt1	N m
Alt2	N/m2
Alt3	N/m
Alt4	m/s2

88	Which of the following is antigen-presenting cell?
Alt1	Helper T cell
Alt2	Plasma cells
Alt3	Macrophage
Alt4	Dendritic cells

89	BLAST program is used for:
Alt1	Protein sequencing
Alt2	DNA barcoding
Alt3	Similar sequence search
Alt4	DNA sequencing

90	First sequenced cereal crop is
Alt1	Wheat
Alt2	Barley
Alt3	Oats
Alt4	Rice

91	How many number of ATP generated in fermentation process?
Alt1	36
Alt2	38
Alt3	2
Alt4	8

92	Genes related through descent from a common ancestral gene are called
Alt1	Orthologous
Alt2	Homologous
Alt3	Heterologous
Alt4	Paralogous

93	The first metabolic intermediate that is common to the aerobic metabolism of glucose and fatty acids is
Alt1	Acetyl CoA
Alt2	aceto-acetyl CoA

Alt3	Pyruvate
Alt4	Pyruvate

94	Which one of the following modifications targets a protein for degradation?
Alt1	Fernesylation
Alt2	Ubiquitination
Alt3	Sumoylation
Alt4	Palmitoylation

95	Process of formation of ATP from ADP during photosynthesis is referred to as
Alt1	Photophosphorylation
Alt2	Photorespiration
Alt3	Phosphorylation
Alt4	Oxidative phosphorylation

96	Binding of a transcription factor to DNA requires
Alt1	ATP
Alt2	A specific DNA sequence
Alt3	A favorable transcription factor concentration
Alt4	The RNA polymerase

97	Which one of the following is best to represent the central dogma?
Alt1	Sequence-Structure-Function
Alt2	DNA-RNA-Proteins
Alt3	Motifs-domains-Superfamilies
Alt4	Data-Databanks-Data mining tools

98	A mass of 19 kg moves at 7 m/s. Its momentum is
Alt1	25 kg m/s2
Alt2	133 N s
Alt3	129 kg m/s2
Alt4	29 N s

99	Which of the following data structure can't store the non-homogeneous data elements?
Alt1	Pointers
Alt2	Stacks
Alt3	Arrays
Alt4	Objects

100	Highest turnover number of an enzymatic reaction so far known is exhibited by
Alt1	Aspartate transcarbamylase
Alt2	ATPase
Alt3	Lysozyme
Alt4	Carbonic anhydrase

Examination: **M.Sc. Bioinformatics**

Section 1 - Section 1

Question No.1 4.00

Bookmark

Transgenic animals used for gene farming or molecular farming called

- Biopests
- Cell Culture
- Biofarmers
- Hybridomas

Question No.2 4.00

Bookmark

Which soil needs the most quick lime to make it neutral for healthy plant growth

- Soil pH 3.0
- Soil pH 7.0
- Soil pH 9.0
- Soil pH 5.0

Question No.3 4.00

Bookmark

What is the term used to define the compounds that dissolve easily in water?

- Hydrophobic
- Hydrophilic
- Amphipathic
- Non-polar

Question No.4 4.00

Bookmark

When a protein has two or more polypeptide subunits, their arrangements in three-dimensional space is referred to as

- Secondary structure
- Tertiary structure
- Quaternary structure
- Primary structure

Question No.5 4.00

Bookmark

Which one of the following methods, the convergence is highly sensitive to starting value?

- RungeKutta method
- Newton-Raphson method
- Bisection method
- Regula-falsi method

Question No.6 4.00

Bookmark

DNA inserted with in the thymine kinase gene of virus by a process of recombination forms

- Vaccinia virus
- BPV Vectors
- Polyoma virus vector
- Bacculo virus vector

Question No.7 4.00

Bookmark

The term Bioinformatics was coined by

- Margaret Daynoff
- J.D. Watson
- Pauling Hogeweg
- Fredric Sanger

Question No.8 4.00

Bookmark

Correct the error in the italicized part of the sentence by choosing the most appropriate options
Job was a tiny man, barely five feet tall, with *a spright walk*

- spright walk
- a sprightly walk
- a sprightly walking
- spright walkingly

Question No.9 4.00

Bookmark

The element listed in periodic table that is color less and non-metal gas

- Mercury
- Nitrogen
- Bromine
- Nickel

Question No.10 4.00

Bookmark

If A+B means A is daughter of B,
A-B means A is husband of B
A x B means A is brother of B

A × B means A is brother of B

From the statement A × B × C × D, which of the following statement is not necessarily true?

- D is brother of C
- B is the brother of A
- A, B, C are male
- C is the brother of A

Question No.11 4.00

Bookmark

The genomic information is stored and replicated in

- Mitochondria
- Cytoplasm
- Nucleus
- Plasma membrane

Question No.12 4.00

Bookmark

She studies very hard for the exams, _____?

- doesn't she?
- is it?
- isn't it?
- does she?

Question No.13 4.00

Bookmark

Which symbol is used to represent the wavelength of the electromagnetic radiation?

- γ
- ω
- λ
- Ω

Question No.14 4.00

Bookmark

Any number of particles can go to the same quantum state if the particles are

- Leptons
- Bosons
- Fermions
- Quarks

Question No.15 4.00

Bookmark

The active form of vitamin B1 is called Thiamine Pyrophosphate which acts as –

- Adjuvant in production of antigen specific T cell clones
- Co-enzyme in oxidative decarboxylation of α-keto acids
- Catalyzer in determining respiratory quotient
- Co-enzyme in Kreb's Cycle

Question No.16 4.00

Bookmark

It is necessary to apply quantum statistics to a system of particles if

- The particles have identical mass and charge
- The particles are interacting
- The mean free path of the particles is comparable to the inter-particle separation
- There is substantial overlap between the wave functions of the particles

Question No.17 4.00

Bookmark

The First law of thermodynamics is conservation of

- Energy
- Momentum
- Temperature
- Pressure

Question No.18 4.00

Bookmark

What do prokaryotic cells lack?

- Membrane-bound nucleus
- Cell membrane
- Cell wall
- Cytoplasm

Cytoplasm

Question No.19 4.00

Bookmark ☑

DNA photolyase recognizes which of the following in order to repair pyrimidine dimers:

- A specific palindromic sequence
- A free 3' end on the affected DNAstrand
- A specific origin for repair to initiate
- Distortion in the double helix

Question No.20 4.00

Bookmark ☐

Based on the information given answer the following question.
1. In a family of six persons, there are people from three generations. Each has separate professions and they like different colours. There are two couples.
2. Shyam is an Engineer and his wife is not a doctor and she does not like Red colour.
3. Chartered Accountant likes green colour and his wife is a teacher.
4. Manisha is the mother-in-law of Sunita and she likes orange colour.
5. Vimal is the grand father of Tarun and tarun is the Principal and likes black colour.
6. Nyna is the grand daughter of Manisha and she likes blue colour. Nyna's Mother likes white colour.

What is the profession of Sunita?

- Chartered Accountant
- Teacher
- Cannot be determined
- Principal

Question No.21 4.00

Bookmark ☐

The opposite process of evaporation is

- Boiling
- Condensing
- Melting
- Freezing

Question No.22 4.00

Bookmark ☐

Name the super computer developed by Indian scientists

- Sequoia
- Jaguar
- Param
- Mira

Question No.23 4.00

Bookmark ☐

Find the odd one out?

- Debit
- Deposit
- Withdrawal
- Deduction

Question No.24 4.00

Bookmark ☐

If logarithmic growth of *E.coli* could be sustained for 48 h, with adequate nutrients, the mass of bacterial cells would equal a volume 500 times that of the planet earth. Which of the following are limiting factors in microbial growth?

- Accumulation of toxic products in the growth medium
- Oxygen
- Accumulation of peroxide
- Accumulation of oxygen free radicals

Question No.25 4.00

Bookmark ☐

- 1
- 3
- 2
- 4

Question No.26 4.00

Bookmark ☐

Nidhi walks 10 metres in front and 10 metres to the right. Then every time turning to her left, she walks 5, 15 and 15 metres respectively. How far is Nidhi now from her starting point?

- 10 metres
- 5 metres
- 15 metres
- None of the above

Question No.27 4.00

Bookmark

Among the following immunoglobulin's mediate immediate hypersensitivity and is response for parasitic infections?

- IgM
- IgA
- IgE
- IgG

Question No.28 4.00

Bookmark

What is the dissociation energy for O-H bond?

- 435 kJ /mol
- 414 kJ /mol
- 470 kJ /mol
- 419 kJ /mol

Question No.29 4.00

Bookmark

The quantitative relationships among pH, the buffering action of a mixture of weak acid with its conjugate base, and the pK_a of the weak acid is given by the –

- EMP- reaction
- Henderson-Hesselbalch reaction
- Photo-oxidative reaction
- Oxidation – reduction reactions

Question No.30 4.00

Bookmark

Being awarded the Best Singer in 2010 marked a _____ in her life.

- yardstick
- milestone
- sign-post
- memorial

Question No.31 4.00

Bookmark

Identify the smallest particle of an element which can take part in any chemical change

- Neutron
- Atom
- Proton
- Nucleus

Question No.32 4.00

Bookmark

Crumb : Bread ::

- Splinter : Wood
- Tea : Cup
- Flower : Vase
- Water : Bucket

Question No.33 4.00

Bookmark

What is the solution of the system?

$$\begin{pmatrix} 1 & -2 \\ 2 & 1 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} -15 \\ 10 \end{pmatrix}$$

- x = 1, y= 4
- x = 1, y= 8
- x = -1, y = 4
- x = -1, y= 8

Question No.34 4.00

Bookmark

Choose the best synonym of the italicized word.
Children of excessively indulgent parents often become very *recalcitrant.*

- insolent
- disobedient
- dependent
- indolent

Question No.35 4.00

Bookmark

How many nanometers are there in one Angstrom?

- 1
- 0.1
- 10
- 100

Question No.36 4.00

Bookmark

The two amino acids are linked by

- Ionic bond
- Hydrogen bond

- Peptide bond
- Amino bond

Question No.37 4.00

Bookmark

What does the CPU contain?

- A card reader and printing unit
- An analytical engine and control progressing unit
- An arithmetic logic unit and card reader
- A control unit and an arithmetic login unit

Question No.38 4.00

Bookmark

5-Bromouracil is a base analog that can cause mutation when incorporated into DNA. Which of the following is the most likely changes that 5-Bromourachil induces

- T : A to C : G
- G : C to T : A
- C : G to A : T
- T : A to A : T

Question No.39 4.00

Bookmark

When a perfect gas expands freely against the vacuum in an insulated vessel, the gas has undergone

- Change in temperature
- Change in phase
- Change in entropy
- An increase in pressure

Question No.40 4.00

Bookmark

Study the following information carefully and answer the question below it

Lakshman passes through seven lanes to reach his school. He finds that 'Truth lane' is between his house and 'Lie lane'. The third lane from his school is 'Karma lane'. 'Dharma lane' is immediately before the 'Yog lane'. He passes 'Salvation lane' at the end, 'Lie lane' is between 'Truth lane' and 'Dharma lane', the sixth lane from his house is 'Devotion lane'.

If Lakshman's house, each lane and his school are equidistant and he takes 2 minutes to pass one lane, then how long will he take to reach school from his house?

- 15 minutes
- 16 minutes
- 13 minutes
- 14 minutes

Question No.41 4.00

Bookmark

In the complex number system, which of the following is equal to $(12 - i)(5 + 10i)$? Take $i = \sqrt{-1}$

- 60
- $60 + 115i$
- 70
- $70 + 115i$

Question No.42 4.00

Bookmark

The length of DNA associated with a protein is determined by using a technique called

- DNA finger printing
- DNA printing
- DNA Foot printings
- DNA replication

Question No.43 4.00

Bookmark

Enzymes accelerate a reaction by which one of the following strategies

- Increasing kinetic energy of the substrate
- Increasing the turn-over number of enzymes
- Increasing the free energy difference between substrate and the product
- Decreasing energy required to form the transition state

Question No.44 4.00

Bookmark

Which device is required for the Internet landline connection?

- Joystick
- CD drive
- NIC card
- Modem

Question No.45 4.00

Bookmark

What are the basic repeating units of proteins?

- Peptides
- Glucose
- Amino Acids
- Fatty Acids

Question No.46 4.00

Bookmark

Which one of the following is a charged amino acid?

- Histidine
- Alanine
- Tyrosine
- Cysteine

Question No.47 4.00

Bookmark

Which of the following bacterial transport method is energy independent?

- Facilitated diffusion
- Simple diffusion
- ATP-dependent active transport
- Proton gradient energized active transport

Question No.48 4.00

Bookmark

Which statistics will apply to deuterons and alpha particles?

- Fermi-Dirac
- Bose-Einstein
- Maxwell-Boltzmann
- All of the above

Question No.49 4.00

Bookmark

Each record in a data base is called an

- Ticket
- Record
- File
- Entry

Question No.50 4.00

Bookmark

All natural processes are irreversible. This is a direct consequence of

- First law of thermodynamics
- Third law of thermodynamics
- The second law of thermodynamics
- Gibbs paradox

Question No.51 4.00

Bookmark

The CD-ROM stands for

- Compactable Disk Read Only Memory
- Compactable Read Only Memory
- Compact Disc Read Only Memory
- Compact Data Read Only Memory

Question No.52 4.00

Bookmark

Choose the best synonym of the italicized word.
Dr. Elango is in the habit of using *obsolete* words.

- wrong
- simple
- outdated
- difficult

Question No.53 4.00

Bookmark

Choose the one which helps to convert the C programs into machine language

- An operating system
- A compiler
- An arithmetic unit
- An editor

Question No.54 4.00

Bookmark

A can finish a work in 18 days and B can do the same work in half the time taken by A. Then, working together, what part of the same work they can finish in a day?

- 0 1/2
- 0 1/4
- 0 1/6
- 0 1/8

Question No.55 4.00

Bookmark

The detection test for Hydrogen:

- Relights a glowing splint

- Turns lime water milky
- Turns blue litmus red and then leaches it
- Gives a Squeaky pop with a lit splint

Question No.56 4.00

Bookmark

Select the Pair that best respresents the relationship that is given in the question:
Explore : Discover

- Research : Learn
- Tree : Wood
- Think : Relate
- Books : Knowledge

Question No.57 4.00

Bookmark

Which one of the following contribute to intrinsic fluorescence to a protein

- Charged amino acids
- Aromatic amino acids
- Disulfide bonds
- Branched chain amino acids

Question No.58 4.00

Bookmark

Which of the following is a property of entropy?

- Entropy increases during an irreversible operation
- Net change in entropy in a reversible cycle is zero
- All the above
- Change in entropy during an adiabatic operation is zero

Question No.59 4.00

Bookmark

Reverse transcriptase is an enzyme unique to the retroviruses. Which one of the following is a function of the enzyme reverse transcriptase?

- RNA-dependent DNA polymerase activity
- DNase activity
- RNA isomerase activity
- RNA-dependent RNA polymerase activity

Question No.60 4.00

Bookmark

Which is the only function all C programs must contain?

- start()
- system()
- main()
- getch()

Question No.61 4.00

Bookmark

The following tells the computer how to use its components

- Mother board
- Operating system
- Network
- Utility

Question No.62 4.00

Bookmark

Crown gall disease in plants is caused by

- Virus
- Bacteria
- Ti Plasmids
- Pi Plasmids

Question No.63 4.00

Bookmark

What is ASCII stands for?

- American Stable Code for International Interchange
- American Standard Code for Interchange Information
- American Standard Code for Information Interchange
- American Standard Code for Institutional Interchange

Question No.64 4.00

Bookmark

The bowel contains many microorganisms but the most prevalent bacterium is

- *E. coli*
- *Klebsiella*
- *B. Fragilis*
- *Staphylococcus*

Question No.65 4.00

Bookmark ☐

Study the following information carefully and answer the question below it

The Director of an MBA college has decided that six guest lectures on the topics of Motivation, Decision Making, Quality Circle, Assessment Centre, Leadership and Group Discussion are to be organised on each day from Monday to Sunday.
(i) One day there will be no lecture (Saturday is not that day), just before that day Group Discussion will be organised.
(ii) Motivation should be organised immediately after Assessment Centre.
(iii) Quality Circle should be organised on Wednesday and should not be followed by Group Discussion
(iv) Decision Making should be organised on Friday and there should be a gap of two days between Leadership and Group Discussion

Which of the following information is not required for the above lecture arrangements?

- All are required
- Only (i)
- Only (ii)
- Only (iii)

Question No.66 4.00

Bookmark ☐

What is the molecular weight of methane (CH_4)? Take the atomic weight of C as 12.01 g/mol and H as 1.01 g/mol.

- 16.05 g
- 13.02 g
- 4.01 g
- 12.25 g

Question No.67 4.00

Bookmark ☐

How many number(s) of the peptide bond(s) are there in a tri-peptide?

- Four
- Two
- Three
- One

Question No.68 4.00

Bookmark ☐

An organism with two identical alleles is

- Heterozygous
- Dominant
- Hybrid
- Homozygous

Question No.69 4.00

Bookmark ☐

According to Mendalism which character shows dominance

- Green color in seed coat
- Terminal position of flower
- Green pod color
- Wrinkled seeds

Question No.70 4.00

Bookmark ☐

Statement: Apart from it's entertainment value of Television, it's educational value cannot be ignored
Assumptions:
I. People take Television to be the means of entertainment only.
II. The educational value of Television is not realized properly

- If both I and II are implicit
- If neither I nor II is implicit
- If only assumption I is implicit
- If only assumption II is implicit

Question No.71 4.00

Bookmark ☑

RNA molecules that exhibit catalytic activity are called

- Ribozymes
- Ribosomes
- Ribonucleases
- mRNAs

Question No.72 4.00

Bookmark ☐

Which form of the amino acids are manufactured in cells and incorporated into proteins?

- D-amino acids
- Both L and D-amino acids

- L-amino acids
- Alpha-amino acids

Question No.73 4.00

Bookmark ☐

Statement: Ten Candidates, who were on the waiting list could finally be admitted to the course.
Assumptions:
I. A large of number of candidates were on the waiting list.
II. Wait listed candidates do not ordinarily get admission.

- If both I and II are implicit
- If neither I nor II is implicit
- If only assumption I is implicit
- If only assumption II is implicit

Question No.74 4.00

Bookmark ☑

Gibbs free energy (G) expresses the amount of energy capable of doing work during a reaction at constant –

- Temperature and volume
- Temperature and mass
- Pressure and volume
- Temperature and Pressure

Question No.75 4.00

Bookmark ☐

What is meant by isomers?

- Two or more number of compounds that are have different kinds of atoms with the similar structural arrangement
- Two or more number of compounds that have same molecular formula, same connectivity, and different structural arrangement
- Two or more number of compounds that have same formula but differ from each other in the structural arrangement
- Two or more number of compounds that have a same molecular formula, but have different connectivity

Question No.76 4.00

Bookmark ☑

DNA can be transferred from one bacterium to another by a number of processes. Uptake by a recipient cell of soluble DNA released from a donor cell is defined as

- Conjugation
- Transduction
- Recombination
- Transformation

Question No.77 4.00

Bookmark ☐

The best method to separate colored substances in a lab is

- Chromatography
- Distillation
- Evaporation
- Filtration

Question No.78 4.00

Bookmark ☐

When their father died, their elder brother sold the old house and _____ in a small flat in a far-off suburb

- set them down
- put them up
- put them down
- set them up

Question No.79 4.00

Bookmark ☑

This is the school where I studied till class 5.
The underlined word is a

- pronoun
- preposition
- adverb
- adjective

Question No.80 4.00

Bookmark ☐

Technique to produce cells capable of producing continuous single type of antibody to predefined antigen is given by

- JR. Birch
- Rosss & John
- Kohleer & Mistein
- Wheclock & Morris

Question No.81 4.00

Bookmark ☐

The first published complete genome sequence was of

The first published complete genome sequence was of:
- T4 Phage
- Ø X 174
- M13 Phage
- ʎ- Phage

Question No.82 4.00

Bookmark

Which one of the following cannot be obtained from X-ray crystallography study?
- The absolute configuration of a molecule
- A distance between two bonded atoms
- The spacing between two parallel aromatic rings
- The vibration frequency of a chemical group

Question No.83 4.00

Bookmark

MPG Extension refers to
- Movie file
- Word file
- Image file
- Text file

Question No.84 4.00

Bookmark

DNA from a host sample can be amplified by a process known as the polymerase chain reaction (PCR). Which of the following is required for PCR?
- A universal probe to detect the amplified product
- A single nucleotide primer
- A heat-sensitive DNA polymerase enzyme
- Knowledge of the genetic sequence to be amplified

Question No.85 4.00

Bookmark

Variable number of tamdem repeats (VNTR´S) in DNA molecule are highly useful in
- Stem cell culture
- DNA Finger printing
- Monoclonal antibody production
- Recombinant DNA technology

Question No.86 4.00

Bookmark

Which one of the following statement concerning the length of carbon-carbon single covalent bond is true?
- The carbon-carbon single bond is shorter than carbon-carbon double bond
- The carbon-carbon single bond is same as carbon-carbon double and carbon-carbon triple bonds
- The carbon-carbon single bond is longer than either the carbon-carbon double or the carbon-carbon triple bonds
- The carbon-carbon single bond is shorter than the carbon-carbon double bond and longer than the carbon-carbon triple bonds

Question No.87 4.00

Bookmark

In double helix of DNA, the two strands are –
- Coiled over each other without any support
- Coiled around common axis
- Coiled around the line of protein fibre
- Separated by from other by protein sheath

Question No.88 4.00

Bookmark

Convert the Hexadecimal number 100 to Octal number
- 400
- 100
- 100000000
- 256

Question No.89 4.00

Bookmark

Which programming languages are classified as low-level languages?
- Assembly languages
- C, C++
- Prolog
- BASIC, COBOL, FORTRAN

Question No.90 4.00

Bookmark

The technique of transfer of DNA molecules separated by gel electrophoresis to the nitrocellulose or nylon membrane is celled
- Western blotting
- Eastern blotting
- Northern blotting
- Southern blotting

Question No.91 4.00

Bookmark

Test cross involves

- Crossing between the F1 hybrid with a double recessive genotype
- Crossing between two genotypes with dominant trait
- Crossing between the F1 hybrids
- Crossing between two genotypes with recessive trait

Question No.92 4.00

Bookmark

Which one of the following symbol is used as a statement terminator in a C program?

- Full stop (.)
- Semicolon (;)
- Comma (,)
- Colon (:)

Question No.93 4.00

Bookmark

What do you call the distance traveled by light as it passes through a cuvette?

- The field length
- The sample width
- The path length
- The focal length

Question No.94 4.00

Bookmark

Choose the best antonym of the italicized word.
The deliberate *suavity* of Olaf's behavior made the emotions of the audience volatile.

- stupidity
- pleasantness
- politeness
- impetuosity

Question No.95 4.00

Bookmark

Which are the following aqueous fluids close to neutral pH?

- Tomato juice, Lemon juice
- Household bleach, Household Ammonia
- Human blood, Tears
- Egg white, Seawater

Question No.96 4.00

Bookmark

Which are the amino acids contains sulfur?

- Cysteine, and Methionine
- Glutamic acid and Aspartic Acid
- Phenylalanine, Tryptophan, and Tyrosine
- Asparagine, Serine, Threonine, and Glutamine

Question No.97 4.00

Bookmark

EC Chips used in computers are made up of

- Lead
- Chromium
- Silicon
- Silver

Question No.98 4.00

Bookmark

Eukaryotic cells and their organelles are disrupted by sonication. The centrifuge is used to separate soluble and insoluble components. Protein X is found in the insoluble fraction following centrifugation. The insoluble fraction is treated with 0.5M NaCl and centrifugation is repeated protein X is now found in the soluble fraction. Protein X would be best described as:

- A soluble nuclear protein
- An integral plasma membrane protein
- An integral membrane protein in an organelle
- A peripheral membrane protein

Question No.99 4.00

Bookmark

What are the eigenvalues of the following matrix?

$$\begin{pmatrix} 1 & 2 \\ 2 & 1 \end{pmatrix}$$

- 3,-1

- 3,3
- 1+2i, 1-2i
- -1+1.4i, -1-1.4i

Question No.100 4.00

Bookmark

Among the following which one is good conductor for electrical wiring

- Silicon
- Iron
- Carbon
- Copper