

Section 1 - Section 1

Question No.1

4.00

Bookmark

Study the following information carefully and answer the question below it:

Aasha, Bhuvnesh, Charan, Danesh, Ekta, Farhan, Ganesh and Himesh are sitting around a circle, facing the centre. Aasha sits fourth to the right of Himesh while second to the left of Farhan. Charan is not the neighbour of Farhan and Bhuvnesh. Danesh sits third to the right of Charan. Himesh never sits next to Ganesh.

Which is the position of Farhan with respect to Ekta?

- Third to the left
- Fourth to the right
- Second to the right
- Sixth to the left

Question No.2

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Electrical impulses are generated in which part of the heart

- Purkinje fibres
- Sinoatrial node
- Atrioventricular node
- Left ventricle

Question No.3

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Fill in the blank with the correct form of the verb.

The International Women's Day \_\_\_\_\_ with great enthusiasm by our university last month.

- celebrated
- was celebrated
- is celebrated
- has celebrated

Question No.4

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If 9 men working 6 hours a day can do a work in 88 days. Then 6 men working 8 hours a day can do it in how many days?

- 89
- 99
- 97
- 95

Question No.5

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Bookmark

If the molar amount of G in a DNA is 20%, what is the molar amount of T in the sample?

- 20%
- 30%
- 60%
- 40%

**Question No.6**

4.00

**Bookmark** 

Corpus luteum secretes which hormone

- Oestrogen
- Progesterone
- Follicle stimulating hormone
- Luteinizing hormone

**Question No.7**

4.00

**Bookmark** 

Which is the largest protein in human body

- Sodium potassium transport kinase
- Titin
- myosin
- Insulin

**Question No.8**

4.00

**Bookmark** 

There were five massive extinctions in the history of earth. In which extinction non-avian dinosaurs went extinct

- Triassic
- Ordovician
- Cretaceous
- Permian

**Question No.9**

4.00

**Bookmark** 

A good producer of citric acid is:

- Aspergillus
- Clostridium
- Pseudomonas
- Saccharomyces

**Question No.10**

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.

Which Colour is liked by the Sunita?

- Cannot be determined
- Black
- Green
- White

**Question No.11**

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Bookmark 

Clover leaf structure precisely describes which biomolecule in the following

- Si-RNA
- t-RNA
- Ribosomes
- Ti- plasmid

**Question No.12**

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Bookmark 

Which is called the ripening hormone

- cytokinins
- Gibberellins
  
- Ethylene
- Auxins

**Question No.13**

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Bookmark 

Which theory aptly describes the existence of chloroplast and mitochondria.

- Endosymbiosis theory
- Knudsons hypothesis.
- Evolution theory
- Cell theory

**Question No.14**

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Bookmark 

Bacterial cell wall components are recognized by

- TLR4
- CLR's
- TLR3
- NLR's

**Question No.15**

4.00

Bookmark 

Which of the following subunits of the bacterial RNA polymerase is responsible for promoter recognition?

- B
- B'
- alpha
- sigma

**Question No.16**

4.00

Bookmark 

Choose the synonym of the italicized word.

Some people are extremely *fastidious* in their choice of dress.

- discriminating
- pompous
- careless
- fussy

**Question No.17**

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Bookmark 

Proteins tagged with mannose-6-phosphate are transported to:

- Lysosomes
- Golgi apparatus
- Plasma membrane
- Mitochondria

**Question No.18**

4.00

Bookmark 

Number of steps present in PCR are

- 3
- 4
- 2
- 6

**Question No.19**

4.00

Bookmark 

Which of the metabolite is common to respiration mediated breakdown of fats, carbohydrates and proteins?

- Pyruvic acid
- $\alpha$ -Keto-glutarate
- Oxaloacetic acid
- Acetyl-CoA

**Question No.20**

4.00

Bookmark 

Choose the most appropriate preposition to fill the blank:  
The mathematics exam will be held between 2\_\_\_\_4pm.

- from
- at
- and
- to

**Question No.21**

4.00

Bookmark 

Which of the following cofactors is involved in amino group transfer?

- Biotin
- CoA
- NAD
- Pyridoxal Phosphate

**Question No.22**

4.00

Bookmark 

The method of mining silver varies from place to place, \_\_\_\_\_?

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

**Question No.23**

4.00

Bookmark 

Study the following information carefully and answer the question below it

In a family, Isha is the granddaughter of Asha. Deepa is the mother of Hansa. Charan is the son of Anand. Radha is the mother of Isha. Deepa is the sister of Vinod and Charan. Nagesh has two children, Gita and Hansa. Emesh is the only grandson in the family. Charan is not married. Radha is the daughter-in-law of Anand.

Who is married to Radha?

- Nagesh
- Charan
- Vinod
- Anand

**Question No.24**

4.00

Bookmark 

Which peptide in the following peptides will be hydrolyzed by trypsin?

- Gly-Met-Arg
- Phe-Met-Pro
- Pro-Arg-Met
- Ala-Phe-Gly

**Question No.25**

4.00

Bookmark 

Which of the following subunits of the bacterial RNA polymerase is responsible for promoter recognition?

- alpha
- B'
- Sigma
- B

**Question No.26**

4.00

Bookmark 

EDTA is chelating agent which chelates

- Divalent anions
- Monovalent anions
- Monovalent cations
- Divalent cations

**Question No.27**

4.00

Bookmark 

Leventhal's paradox represents concept of

- Enzyme kinetics
- Pharmacodynamics
- Drug kinetics
- Protein folding

**Question No.28**

4.00

**Bookmark** 

Cadherin's are adhesion molecules involved in tight junctions of the cells. They form the tight junction through strand switching method. List the necessary criteria needed tight junction formation by cadherins

- Availability of  $\text{Ca}^{2+}$  ions in micro molar concentration with conserved Ala2 residue.
- Availability of  $\text{Mg}^{2+}$  ions ions in micro molar concentration with conserved Trp2 residue
- Availability of  $\text{Ca}^{2+}$  ions in micro molar concentration with conserved Trp2 residue
- Availability of  $\text{Mg}^{2+}$  ions ions in micro molar concentration with conserved Ala2 residue

**Question No.29**

4.00

**Bookmark** 

1, 4, 27, 16, ?, 36, 343

- 72
- 25
- 132
- 125

**Question No.30**

4.00

**Bookmark** 

Which form is amino nitrogen excreted from the body of birds and reptiles?

- Ammonia
- Urea
- All of them
- Uric acid

**Question No.31**

4.00

**Bookmark** 

Which metal is used in galvanization process

- Zinc
- Aluminium
- Vanadium
- Ni-Chrome

**Question No.32**

4.00

**Bookmark** 

A researcher came upon a young herbaceous plant which was very brittle. He found it to be abnormal. Mostly, all young herbaceous plants have a flexible stem. He speculated some hypothesis for the brittle stem. Help the researcher to find the correct hypothesis.

- Lignification of Aerenchyma
- Gain of function mutation in Chlorenchymal cells
- Deletion mutation of Collenchyma
- Striation of Parenchymal cells

**Question No.33**

4.00

**Bookmark** 

Repressor molecules bind to the:

- Promoter
- Enhancer
- Operator
- Hormone response element

**Question No.34**

4.00

**Bookmark** 

In an in vitro protein translation-translocation system, the following components are present besides all protein synthesis machinery: SRP and SRP-receptor but no microsomes. What will be your observation?

- No polypeptide will be formed
- Complete polypeptide without signal peptide will be formed
- Polypeptide with elongation blocked at 70-100 amino acids will be formed
- Complete polypeptide with signal peptide will be formed

**Question No.35**

4.00

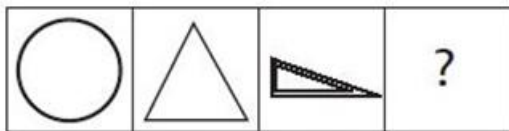
**Bookmark** 

A 40 year old alcoholic comes in with severe pain in his big toe. You decide to administer Allopurinol to inhibit which of the following enzyme:

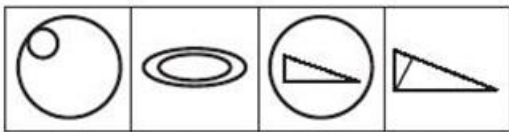
- Adenosine deaminase
- Thymidine kinase
- Adenine phosphoribosyl transferase
- Xanthine oxidase

**Question No.36**

4.00

**Bookmark** 

A B C D



(1) (2) (3) (4)

- 4
- 3
- 2
- 1

**Question No.37**

4.00

**Bookmark** 

The enzyme responsible for continuing DNA replication in prokaryotes, once it is initiated is:

- DNA polymerase I
- polymerase delta
- DNA polymerase II
- polymerase beta

**Question No.38**

4.00

**Bookmark** 

Which one among the following amino acids acts as neurotransmitter?

- Glutamic acid
- Alanine
- Aspartic acid
- Tyrosine

**Question No.39**

4.00

**Bookmark** 

In a certain enzyme catalyzed reaction performed with X amount of enzyme, the  $K_m$  was determined to be 2 nM. The reaction was repeated under the same conditions with 2X amount of enzyme such that the substrate condition is still not limiting. What would you expect the  $K_m$  to be?

- Cannot be calculated
- 1 nM
- 2 nM
- 4 nM

**Question No.40**

4.00

**Bookmark** 

Statements: Buses are cars. Cycles are cars

Conclusion:

I. Cars are buses

II. Buses are Cycles

- If only conclusion I follows
- If either I or II follows
- If neither I nor II follows
- If only conclusion II follows

**Question No.41**

4.00

**Bookmark** 

Study the following information carefully and answer the question below it (i) There is a group of five persons- A, B, C, D and E (ii) One of them is manual scavenger, one is sweeper, one is watchman, one is human scarecrow and one is grave-digger (iii) Three of them – A, C and grave-digger prefer tea to coffee and two of them – B and the watchman prefer coffee to tea (iv) The human scarecrow and D and A are friends to one another but two of these prefer coffee to tea. (v) The manual scavenger is C's brother Which of the following groups includes a person who likes tea but is not a grave-digger?

- BD
- DE
- BCE
- None of the above

**Question No.42**

4.00

**Bookmark** 

The enzyme used in disruption of bacterial cell wall is:

- Lactase
- Hemicellulase
- Lysozyme
- Lipase

**Question No.43**

4.00

**Bookmark** 

The human liver cannot produce

- Ketone bodies from fatty acids
- glucose from fatty acids
- Glucose from amino acids
- Fatty acids from glucose



**Question No.44**

4.00

Bookmark 

In the complement system, which pathway uses Factor B and D for activation of C3 convertase

- Classical
- Lectin
- Alternate
- A & B

**Question No.45**

4.00

Bookmark 

Which of the following proteins is called docking proteins?

- Antibodies
- SRP-receptors
- Insulin receptors
- Carrier proteins

**Question No.46**

4.00

Bookmark 

Two important functions of peroxisomes in plants are

- 1. Secondary metabolite production.  
2. Maintain turgor pressure.
- 1. Protein synthesis in chloroplast.  
2. Colouring of flowers
- 1. Conversion of stored fatty acids to carbohydrates in seeds.  
2. Photorespiration in leaves
- 1. Acts as ion channels  
2. Helps in stomatal movement

**Question No.47**

4.00

Bookmark 

Tiny air sacs of the lungs which allow for rapid gaseous exchange are

- Parietal cells
- Microglia
- Epiglottis
- Alveolus

**Question No.48**

4.00

Bookmark 

**Statement:** Be humble even after being victorious.

**Assumptions:**

I. Many people are humble after being victorious

II. Generally People are not humble

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

**Question No.49**

4.00

Bookmark 

N-Ethylmaleimide will react with which of the following functional group of the protein:

- Carboxyl group
- Sulfhydryl group
- Amino group
- Imidazole group

**Question No.50**

4.00

**Bookmark** 

The most abundant protein in the biosphere is

- Rubisco
- Collagen
- IgG
- Albumin

**Question No.51**

4.00

**Bookmark** 

You wouldn't tell them what happened, \_\_\_\_\_

- wouldn't you?
- would you?
- isn't it?
- won't you?

**Question No.52**

4.00

**Bookmark** 

Cystic fibrosis transmembrane conductance regulator (CFTR), mutation in this gene is responsible for cystic fibrosis. Identify the normal function of this gene

- Functions as a cAMP- and ATP-regulated Na<sup>+</sup> channel
- Functions as a cAMP- and ATP-regulated Cl<sup>-</sup> channel
- Functions as a JAK STAT kinase regulated Cl<sup>-</sup> channel
- Functions as a endocrine regulated Cl<sup>-</sup> channel

**Question No.53**

4.00

**Bookmark** 

Substrate level phosphorylation is catalyzed by

- Succinate dehydrogenase
- Hexokinase
- Phosphoglycerate kinase
- Phosphofructokinase

**Question No.54**

4.00

**Bookmark** 

Which protein is majorly used as carrier protein in conjugate vaccines

- Flagellin
- Diphtheria Toxin CRM197
- Collagenase.
- HPV capsule protein

**Question No.55**

4.00

**Bookmark** 

Antibiotics such as Ciprofloxacin and Fluoroquinolones work by inhibiting a specific enzyme. This enzyme is normally necessary to relieve torsional strain that is caused by the unwinding of the helix. What is the name of this enzyme?

- Primase
- Single-stranded binding protein
- Topoisomerase (DNA Gyrase)
- DNA ligase

**Question No.56**

4.00

**Bookmark** 

Which is the major building block of agrochemical and pharmaceutical products

- Furan
- Pyrrole
- Thiophenes
- Pyridines

**Question No.57**

4.00

**Bookmark** 

For passive vaccination, which antibody type will be most appropriate:

- Single chain antibody
- Monoclonal antibody
- Both Polyclonal and monoclonal
- Polyclonal antibody

**Question No.58**

4.00

**Bookmark** 

UDP-Gal/UMP or GDP-Mannose/GDP antiport is present in the membrane of:

- Lysosome
- Mitochondria
- Golgi Apparatus
- ER

**Question No.59**

4.00

**Bookmark** 

Sunil likes chocolates very much, \_\_\_\_\_?

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

**Question No.60**

4.00

**Bookmark** 

Which is known as artificial cell/membrane?

- Virosome
- Glyoxisome
- Nanosome
- Liposome

**Question No.61**

4.00

**Bookmark** 

*In the following question, the first two words (given in italics) have a definite relationship. Choose one word out of the given four alternatives which will fill the blank space and show the same relationship with the third word as between the first two.*

*Latex* is to *Rubber* as *Flax* is to .....?.....

- Cotton
- Silk
- Linen
- Jute

**Question No.62**

4.00

**Bookmark** 

Semi conservative replication was proposed by

- Meselson & Stahl
- Jacques Monod & Joshua Lederberg
- Watson & Crick
- Khorana & Nirenberg

**Question No.63**

4.00

**Bookmark** 

In which phase of the cell cycle, the cell irreversibly commits itself to the cycle

- M checkpoint
- G2
- G1
- S

**Question No.64**

4.00

**Bookmark** 

An eukaryotic organism lacks the importin gene, which is responsible for protein import through the nuclear membrane. There is microbial infection in the organism, triggering one of the major nuclear inducible gene cascade. What will be the outcome

- The downstream signalling pathway will not be activated.
- The downstream signalling will be activated but the protein is not imported into nuclear membrane.
- The downstream signalling will not be activated but the protein is imported into the nuclear membrane
- The downstream signalling will be activated and protein is imported through passive transport

**Question No.65**

4.00

**Bookmark** 

Trypsin specifically recognizes

- C terminal end of Arginine and lysine
- N terminal end of Arginine and lysine
- N terminal end of Arginine and leucine
- C terminal end of Arginine and leucine

**Question No.66**

4.00

**Bookmark** 

Which of the following drugs causes the dissolution of the Golgi apparatus with ER.

- puromycin
- Brefeldin A
- chloroquine
- flycomycin

**Question No.67**

4.00

**Bookmark** 

Which subunit of prokaryotic DNA Pol III is responsible for proof reading mechanism

- Beta
- Epsilon
- Alpha
- Delta

**Question No.68**

4.00

**Bookmark** 

Which of the following organelles has membrane which is unusually permeable to inorganic ions and low molecular wt. substrate?

- ER
- Lysosomes
- Peroxisomes
- Golgi apparatus

**Question No.69**

4.00

**Bookmark** 

Pulmonary vein is major blood vessel which carries

- deoxygenated blood from the lungs to the heart
- oxygenated blood from the lungs to the heart
- oxygenated blood from the heart to the lungs
- deoxygenated blood from the heart to the lungs

**Question No.70**

4.00

**Bookmark** 

Which of the following does not have introns?

- Non-processed pseudo genes
- Primary RNA transcript
- Processed mRNA
- DNA

**Question No.71**

4.00

**Bookmark** 

Which is the rate limiting enzyme in glycolysis

- Aldolase
- Pyruvate kinase
- Phosphofructokinase
- Hexokinase

**Question No.72**

4.00

**Bookmark** 

The site for synthesis for plasmalogens is

- ER
- Golgi apparatus
- Peroxisome
- Mitochondria

**Question No.73**

4.00

Bookmark 

Which metal is coated to the specimen before using in SEM.

- Zirconium
- Gallium
- Gadolinium
- Gold

**Question No.74**

4.00

Bookmark 

Serine proteases have 3 prominent amino acids in its active site, they are

- Valine, serine, Histidine
- Serine, Histidine, Aspartic acid
- Serine, cysteine, aspartic acid.
- Serine, leucine, lysine

**Question No.75**

4.00

Bookmark 

Choose the best antonym of the italicized word.

The principal *deprecated* the attitude of some student-leaders.

- tolerated
- derided
- ignored
- appreciated

**Question No.76**

4.00

Bookmark 

SDS-PAGE separates proteins on the basis of

- Secondary Structure
- Charge
- Zwitter ions
- Molecular weight

**Question No.77**

4.00

Bookmark 

Which among the immune cell majorly acts as antigen presenting cell

- IL-6
- TNF- $\alpha$  cells
- Macrophages
- Spleenocytes

**Question No.78**

4.00

Bookmark 

Which number replaces the question mark?

6	7	2
13	9	
	22	
17	5	
13	4	?

- 3
- 2
- 1
- 4

**Question No.79**

4.00

Bookmark 

Which is the infamous X-linked inheritance disease which runs in the British Royal Family.

- Haemophilia
- Huntington's chorea
- Down syndrome
- Multiple Sclerosis

**Question No.80**

4.00

Bookmark 

Perfectly folded protein has

- Less entropy and less enthalpy
- Less entropy and high enthalpy
- High entropy and less enthalpy
- High entropy and high enthalpy

**Question No.81**

4.00

Bookmark 

The cell-mediated immunity inside the human body is carried out by:

- Thrombocytes
- Erythrocytes
- B-Lymphocytes
- T-Lymphocytes

**Question No.82**

4.00

Bookmark Choose the correct meaning of the italicized idiom.  
The police *cordoned off* the area after the explosion.

- filled the whole area
- checked everyone in the area
- did not allow anyone to leave the area
- isolated the area

**Question No.83**

4.00

Bookmark 

Which of the following amino acids is synthesized directly from TCA cycle intermediate?

- serine
- aspartic acid
- alanine
- cysteine

**Question No.84**

4.00

**Bookmark** 

Lactose consists of

- Glucose + Glucose
- Mannose + Glucose
- Galactose + Glucose
- Glucose + Fructose

**Question No.85**

4.00

**Bookmark** 

Which amino acid from the following amino acid residues would you expect to find on the inside of a typical globular protein molecule in solution at pH 7?

- Val
- Glu
- His
- Asp

**Question No.86**

4.00

**Bookmark** 

Which the recognition site for ribosomes in prokaryotic mRNA

- Shine dalgarno sequence
- Poly A site
- TATA box
- CpG site

**Question No.87**

4.00

**Bookmark** 

DNA damage in the cell can be analyzed using

- Comet assay
- Bradford assay
- Nanodrop
- RAPD

**Question No.88**

4.00

**Bookmark** 

Muscle cells differ from nerve cells because they

- use different genetic codes
- express different genes
- contain different genes
- have unique ribosomes

**Question No.89**

4.00

**Bookmark** 

Which of the following graphical plots would provide you the number of ligand binding sites in hemoglobins?

- Scatchard plot
- Hill's plot
- Sigma plot
- Lineweaver-Burk plot



**Question No.90**

4.00

**Bookmark** 

Rifampicin is a RNA polymerase inhibitor which inhibits the

- rpoB* subunit
- rpoZ* subunit
- rpoE* subunit
- rpoD* subunit

**Question No.91**

4.00

**Bookmark** 

Which form of DNA is observed during transcription

- rDNA
- B - DNA
- Z - DNA
- A - DNA

**Question No.92**

4.00

**Bookmark** 

If black is called white, white is called red, red is called pink, pink is called green, green is called blue, what would be the colour of human blood?

- Blue
- Pink
- White
- Green

**Question No.93**

4.00

**Bookmark** 

Which cell is exclusively responsible for the formation of myelin sheath in Peripheral Nervous system (PNS)

- Microglia
- Astrocytes
- Schwann cells
- Oligodendrocytes

**Question No.94**

4.00

**Bookmark** 

The precursor of all N-linked oligosaccharide contains:

- Three glucose, eight mannose and three N-acetylglucosamine
- Two glucose, nine mannose and three N-acetylglucosamine
- Three glucose, nine mannose and two N-acetylglucosamine
- Two glucose, eight mannose and four N-acetylglucosamine

**Question No.95**

4.00

**Bookmark** 

Which of the following cofactors is involved in carboxyl transfer?

- Biotin
- Pyridoxal phosphate
- TPP
- FAD

**Question No.96**

4.00

Bookmark 

A toxin which has been treated with formalin is called:

- Exotoxin
- Toxoid
- Antitoxin
- Enterotoxin

**Question No.97**

4.00

Bookmark 

Streptomycin inhibits the protein biosynthesis in

- fungal cells
- Eukaryotic cells
- prokaryotic cells
- plant cells

**Question No.98**

4.00

Bookmark 

Tunicamycin inhibits the biosynthesis of:

- Mucopolysaccharide
- Glycolipids
- Polysaccharides
- Glycoproteins

**Question No.99**

4.00

Bookmark 

Which amino acids are popularly termed as helix breakers

- Tyrosine and Tryptophan
- Lysine and methionine
- Valine and leucine
- Proline and Glycine

**Question No.100**

4.00

Bookmark 

When isotopic glycine  $^{15}\text{NH}_2\text{-CH}_2\text{-COOH}$  was administered in rats which nitrogen atom in purine will be labeled with  $^{15}\text{N}$ ?

- N-9
- N-7
- N-3
- N-1