## Physical, biological Chemical nature of protoplasm Inorganic compounds.

**1.** Smell in protoplasm is like :
(1) $NH_3$ (2) $SO_2$
(3) Garlic (4) None

**2.** In true solution size of solute particles is :
(1) Less then 0.001 $\mu$ (2) 0.001 $\mu$ - 0.1 $\mu$
(3) More than 0.1 $\mu$ (4) None

**3.** In sol type of colloidal solution, dispersion phase is :
(1) Solid (2) Liquid
(3) Gas (4) None

**4.** Trace element is -
(1) Fe (2) Zn
(3) Na (4) Mg

**5.** $Ca^{2+}$ is necessary in - **[RPMT - 94]**
(1) Muscle Contraction (2) Blood clotting
(3) Bone formation (4) All the above

**6.** Which element is found in abundance in eukaryotic cell - **[RPMT - 94]**
(1) Ca (2) P
(3) Mg (4) S

**7.** Which element is most abundant outside animal cell - **[RPMT - 94]**
(1) Na (2) K
(3) $I_2$ (4) Fe

**8.** Term protoplasm is introduced by - **[RPMT - 94, 92]**
(1) Purkinje (2) Schultze
(3) Stutton and Boveri (4) Van mohl

**9.** Which element is common in haemoglobin and myoglobin - **[RPMT - 94]**
(1) Fe (2) Cu
(3) Mn (4) Mg

**10.** Which of the following type of water most abundantly found in protoplasm :
(1) Free form (2) Bound form
(3) Crystal form (4) Ice

**11.** What is function of trace elements which occur in protoplasm - **[RPMT - 91]**
(1) Formation of enzymes
(2) Formation of Hormones
(3) Formation of Haemoglobin
(4) Formation of Chlorophyll

**12.** Hormones, enzymes and vitamins are included in same group of biochemicals because these all - **[RPMT - 89]**
(1) Composed of proteins
(2) Regulate oxidative metabolism
(3) Synthesized in animal body
(4) Help to regulate the metabolism.

**13.** Inter change of plasmosal and plasmaoel is - **[RPMT - 89]**
(1) Bio - chemical phenomenon
(2) Physico bio - chemical phenomenon
(3) Chemical
(4) Physical

**14.** Inside of cell as compared to outside **[RPMT - 88]**
(1) More sodium (2) More potassium
(3) More Na and K (4) None

**15.** Percentage of water in animal body is **[RPMT - 94]**
(1) 20% (2) 65%
(3) 55% (4) 15%

**16.** Water is important for the body of animals in : **[BHU - 79]**
(1) Reproduction
(2) Keeping the body cooled
(3) Working as solvent
(4) All of them

**17.** Decreasing order of organic compound in protoplasm is :
(1) Protein, lipid, Nucleic acid, Vitamin
(2) Protein, Lipid, carbohydrate, Nucleic acid
(3) Carbohydrate, Lipid, Nucleic acid and vitamin
(4) None of these

**18.** Who propsed the name sarcode for protoplasm :
(1) Van mohl (2) Corti (3) Dujardin (4) Schultz

**19.** Which theory is most acceptable for physical structure of protoplasm -

(1) Granular theory (2) Reticular theory

(3) Alveolar theory (4) Golloidal theory

**20.** Which elements occur more in bones -

(1) Ca and Mg (2) Mg and Mn

(3) Ca and P (4) Ca and Fe

**21.** Water in protoplasm occurs in which form -

(1) Free from (2) Bound form

(3) both 1 and 2 (4) Crystal form

**22.** Which of following occurs in maximum concentration in blood plasma (ECF): **[AIPMT - 99]**

(1) $K^+$ (2) $Mg^{+2}$

(3) $Ca^{+2}$ (4) $Na^+$

**23.** Saline solution is given to patients of Cholera because - **[AIPMT - 2000]**

(1) $Na^+$ prevents water loss from body

(2) NaCl functions as regulatory material

(3) NaCl produces energy

(4) NaCl is antibacterial

**24.** Which element is located at the centre of the poryphyrin ring in chlorophyll : **[AIPMT - 2003]**

(1) Calcium (2) magnesium

(3) Potassium (4) Mangnese

**25.** The major role of minor elements inside living organisms is to act as : **[AIPMT - 2003]**

(1) co-factors of enzymes

(2) Buildings blocks of important amino acids

(3) Constituent of hormones

(4) Binder of cell structure

## Carbohydrates, Fats, Proteins

**26.** A higher nucleotide is a nucleotide having

(1) higher molecular weight

(2) More than one phosphate redicle

(3) More than one nitrogen base

(4) More than one sugar residue

**27.** Which is odd -

(1) Chitin Carbohydrates

(2) Pectin - Protein

(3) Steriod - Lipid

(4) Wx - Lipid

**28.** Kwashiorkor disease developes due to – **[MP-PMT]**

(1) Malnutrition (2) Over eating

(3) Catlysis (4) Mutation

**29.** Glycogen is stored in - **[MP PMT, AIPMT -79]**

(1) Live and muscles (2) Liver only

(3) Muscles only (4) Pancreas

**30.** Cholesterol is syntehsized in - **[MP PMT 94]**

(1) pancreas (2) Brunners gland

(3) Spleen (4) Liver

**31.** Which is a disaccharide - **[MP PMT 94]**

(1) Galactose (2) Fructose

(3) Maltose (4) dextrin

**32.** Which element is normally absent in proteins - **[RPMT 95]**

(1) C (2) N

(3) S (4) P

**33.** Which substance is not carbohyddrate - **[RPMT ]**

(1) Starch (2) Glycogen

(3) Wax (4) Glucose

**34.** To get quick energy one should use **[RPMT 94]**

(1) Carbohydrate (2) Fats

(3) Vitamins (4) Proteins

**35.** Protein most abundant in human body is - **[RPMT 94]**

(1) Collagen (2) Myosin

(3) Actin (4) Albumin

**36.** Which is not polysaccharide - **[RPMT 94]**

(1) Sucrose (2) starch

(3) Glycogen (4) cellulose

**37.** Decreasing order of amount of organic compound in animal body - **[RPMT 94]**

(1) Carbohydrate, Protein, fat, and nucleic acid

(2) Protein, fats, nucleic acid and carbohydrate

(3) Protein, fats, carbohydrates and nucleic acid

(4) Carbohydrate, fats, Proteins and nucleic acid

**38.** Characteristic feature of haemoglobin - **[RPMT 94]**

(1) Reversible union with oxygen

(2) Red colour

(3) Presence of Cu

(4) Presence of Globulin protein

**39.** External Coat composed of cellulose like material occurs in - **[RPMT 94]**

(1) Hemichordata (2) Urochordata

(3) Cephalochordata (4) Cyclostomata

**40.** Common in feather and Silk is - **[RPMT 93]**

(1) Carbohydrate (2) Fats

(3) Protein (4) Nucleic acid

**41.** Monosaccharide is - **[RPMT 93]**

(1) Pentose Sugar (2) Hexose Sugar

(3) Only Glucose (4) all the above

**42.** Sugar which found in haemolymph of insects in called - **[RPMT 93]**

(1) Maltose (2) Lactose

(3) Trehalose (4) Galactose

**43.** Which substance is most abundant in cell - **[RPMT 93]**

(1) They provide definite shape to cell

(2) They function as biocatalyst

(3) They yield energy

(4) They are stored food

**45.** Dipeptide is : **[RPMT 93]**

(1) Structure of two peptide bonds

(2) Two amino acids linked by one peptide bond

(3) bond between one amino acid and one peptide

(4) None

**46.** Which amino acids is non essential for human body - **[RPMT 92]**

(1) Glycine (2) Phenyl alanine

(3) Arginine (4) methionine

**47.** Nails, horns and hoofs contain -

(1) Chitin (2) Keratin

(3) Both (4) None

**48.** Essential component of all living organisms

(1) Hemoglobulin (2) Protein

(3) Chlorophyll (4) Carbohydrate

**49.** In which form the extra Sugar stored in the body - **[RPMT 91]**

(1) Glucose monosccharide

(2) Surcrose Disaccharide

(3) Glycogen polysacchride

(4) Fatty acid and glycerol

**50.** Products of proteins catabolism **[RPMT 89]**

(1) $NH_3$, $CO_2$ and Urea

(2) Urea $CO_2$ and NH

(3) Urea, $NH_3$ and uric acid

(4) Urea, $NH_3$ alanine and creatine

**51.** Galactosemia disease in children can be prevented if they are provided - **[RPMT 89]**

(1) milk less food 2) proteinaceous milk

(3) More milk (4) vitamin less milk

**52** Glycogen is - **[RPMT 88]**

(1) Polymer of amino acids

(2) Polymer of fatty acids

(3) Unsaturated fats

(4) Polymer of glucose

**53.** Carbohydrate is - **[RPMT 88]**

(1) Polymers of fatty acid

(2) Polymers of amino acids

(3) Poly hydroxy aldenhyde or ketone

(4) None

**54.** In which form, food stored in animals body - **[RPMT 88]**

(1) Glucose (2) Glycogen

(3) Cellulose (4) ATP

**55.** Which compound produces more than twice the amount of energy as compared to carbohydrates **[AIPMT 75 BHU 78 ]**

(1) Protein (2) Fats

(3) Vitamins (4) Glucose

**56.** What is the normal ratio of sugar in human blood. **[BHU 80'81 ]**

(1) 0.1% (2) 0.1%

(3) 1% (4) 0.18%

**57.** Carbohydrates are stored in mammals as : **[AIPMT 81 ]**

(1) Glucose in liver

(2) Glycogen in muscles and spleen

(3) Lactic acid in muscles

(4) Glycogen in liver and muscles

**58.** Carbohydrate metabolism is controlled by : **[AIPMT 78]**

(1) Parathormone (2) Insulin

(3) Glucose (4) Vitamine $B_{12}$

**59.** Fattyness is due to the excess of : **[AIPMT 86]**

(1) Connective tissue (2) Blood

(3) Muscular tissue (4) Adipose tissue

**60.** Which one of the following is polysaccharide - **[AIPMT 86]**

(1) Sucrose (2) Lactose

(3) Glycogen (4) Glucose

**61.** Starving person will first use : **[AIPMT 88]**

(1) Fats (2) Glycogen

(3) Blood protein (4) Muscle protein

**62.** Units of proteins which unite in long chains to form proteins, are called – **[NCERT, 72 AIPMT 74 76 BHU 77, 78]**

(1) Sugar (2) Purines (3) Pyrimidines (4)Amino acids

**63.** Milk protein is - **[BHU 81 ]**

(1) Lactogen (2) Myosin (3) Casein (4) Pepsin

**64.** Chemically enzymes are : **[NCERT 77, AIPMT 78]**

(1) Fats (2) Carbohydrates

(3) Hydrocarbons (4) Proteins

**65.** Long chain molecuels of fattey acids are formed **[NCERT-76 ]**

(1) polymerisation of 2 carbon compounds

(2) Decoposition of fats

(3) Polymeristaion of glycogen

(4) Conversion of glycogen

**66.** Most simple amino acid is - **[BHU 86 ]**

(1) Tyrosine (2) Lysine

(3) Glycine (4) Aspartic acids

**67.** The amino acids which are not synthesized in they body are called :

(1) Non-essential (2) Essential

(3) Deaminated (4) All of them

**68.** Which of the following will be different in different animals :

(1) Fats (2) Carbohydrates

(3) Proteins (4) Vitamins

**69.** Fats in the body are formed when : **[NCERT 76 ]**

(1) Glycogen is formed from glucose

(2) Sugar level becomes stable in blood

(3) Extra glycogen storage in liver and muscles is stopped

(4) All of them

**70.** Gaucher's disease is concerned with which of the following :

(1) Abnormal fat metabolism

(2) Abnormal protein metabolism

(3) Abnormal carbohydrate metabolism

(4) None of them

**71.** For body growth and repair one needs :**[AIPMT 88]**

(1) Carbohydrates (2) Fata

(3) Proteins (4) Vitamins

**72.** In India the best source for proteins in herbivo - **[NCERT 76 ]**

(1) Pulses (2) Potato (3) Egg (4) Meat

**73.** Proteins are conducted in the body in the form of : **[NCERT 76 ]**

(1) Amino acids (2) Natural proteins

(3) Enzymes (4) nucleic acids

**74.** Which is sweet in taste, but is not sugar -**[AIPMT 83]**

(1) Starch (2) Saccharine

(3) Lactose (4) Protein

**75.** The formation of protein can be considered as : **[AIPMT 86]**

(1) Dehydration synthesis

(2) Dehydration analysis

(3) Hydration synthesis

(4) Hydration analysis

**76.** Translocation of sugars in flowering plants occurs in the form of - **[AIPMT 1977-84, DPMT 1983, RPMT - 1998]**

(1) Glucose (2) Sucrose

(3) Fructose (4) Maltose

**77.** Sucrose is composed of - **[RPMT ]**

(1) Glucose & Fructose

(2) Glucose & Glycogen

(3) Two molecules of Glucose

(4) Glycogen & Fructose

**78.** Which of the following amino acid is essential - **[RPMT 1997]**

(1) Alanine (2) Glycine

(3) Tryptophan (4)Tyrosine

**79.** Which of the following disaccharides will give two molecules of glucose on hydrolysation **[RPMT 1997]**

(1) Maltose (2) Sucrose

(3) Lactose (4) None

**80.** Which is very most structural part of the body - **[RPMT 1997]**

(1) Protein (2) Carbohydrates

(3) Lipid (4) Nucleic acid

**81.** Which of the following sugar is found in ATP **[RPMT 1997]**

(1) Deoxyribose (2) Ribose

(3) Trehalose (4) Glucose

**82.** Deficinecy of protein leads to - **[RPMT 1998]**

(1) Rickets (2) Scurvy

(3) Kwashiorkor (4) Carotenemia

**83.** Lactose is composed of – **[RPMT 1998, AIPMT 1998]**

(1) Glucose + galactose

(2) Glucose + fructose

(3) Glucose + glucose

(4) Glucose + mannose

**84.** True statement for cellulose molecule – **[AIPMT 1998]**

(1) $\beta$ -1' - 4" linkage. unbranched

(2) $\beta$ - 1' - 4" linkage. branched

(3) $\alpha$ - 1' - 4" linkage, branched

(4) $\beta$ - 1' - 6" linkage unbranched

**85.** Contractile protein is - **[AIPMT 1998]**

(1) Actin (2) Myosin

(3) Troponin (4) Tropomyosin

**86.** Variatiions in proteins are due to - **[AIPMT 1998]**

(1) Sequence of amino acids

(2) Number of amino acids

(3) R – group

(4) None

**87.** The antibodies are - **[MP PMT 1998]**

(1) $\gamma$ (Gamma) - globulins (2) Albumins

(3) Vitamins (4) Sugar

**88.** Sweetest sugar among the naturally occurring sugar -

(1) Glucose (2) Fructose

(3) Surcrose (4) Saccharine

**89.** Histone is a basic protein due to –

(1) Alanine & glycine (2) Methionine & serine

(3) Tryptophan & tyrosine (4) Lysine & Arginine

**90.** Lipid derivatives which occur in faecal material -

(1) Cholesterole (2) Ergesterole

(3) Lanoline (4) Coprosterole

**91.** Example of phospho protein is -

(1) Mucin (2) Fibrinogen

(3) Casein (4) Myosin

**92.** Sugar with gfive membered ring called -

(1) Pyranose (2) Furanose

(3) Dextrorotatory (4) Laevortatory

**93.** Which sugar occurs only in mammals -

(1) Trehalose (2) Galactose

(3) Lactose (4) Mannose

**94.** Crotenoids composed of units -

(1) Fatty acids (2) Amino acids

(3) Isoprene (4) Pyran

**95.** Sugar which occurs in haemolymph of insects -

(1) Chondriotin (2) Heparin

(3) Trehlose (4) Maltose

**96.** Which sugar does not give Benedict's test -

(1) Glucose (2) Multose

(3) Fructose (4) Sucrose

**97.** Amylose and Amylopectin chains occur in -

(1) Glycogen (2) Starch

(3) Cellulose (4) Chitin

**98.** All lipids are -

(1) Composed of fatty acids

(2) Triglycerides

(3) Insoluble in water

(4) All the above

**99.** Which of the following does not contain metal :

(1) Glycoproteins (2) Ferritn

(3) Cytochromes (4) Chromoproteins

**100.** Which protein found in maximum amount : **[AIPMT 99]**

(1) Catalase (2) Zinc carbonic anhydrase

(3) Transferase (4) RUBISCO

**101.** Proteoglycan is cartilages which is part of polysaccharide : **[AIPMT 2000]**

(1) Condriotin (2) Ossein

(3) Cassein (4) Cartilegen

**102.** In the genetic ode dictionary, how any codons are used to code for all the 20 essential amino **[AIPMT 2003]**

(1) 20 (2) 64 (3) 61 (4) 60

## N.A. Replication, Transcription, protein synthesis

**103.** which of the following may be true for RNA - **[RPMT 96]**

(1) A = U G = C (2) A ≠ U G ≠ C

(3) A = U = G = C (4) Purines = Pyrimidines

**104.** The enzyme which can cut molecules of DNA in to segments is known as - **[MP PMT ]**

(1) DNA Polymerase (2) DNA Ligase

(3) Restriction enzyme (4) DNA Gyrse

**105.** The genes concerned with the production of cancer are called - **[MPPMT ]**

(1) Cancer genes (2) Carcino genes

(3) Carcinomas (4) Onco genes

**106.** If genetic code is tetraplet then what is the possible number of codons which code 20 types of amino acids -

(1) 261 (2) 64

(3) 256 (4) 43

**107.** Quantity of nucleic acids in animal cells is - **[RPMT 95]**

(1) 2 % (2) 5%

(3) 10 (4) 15%

**108.** Nucleic acids are made up of - **[RPMT 95]**

(1) Amino acids (2) Pentose sugars

(3) Nucleosides (4) Nucleotides

**109.** Nucleic acids are polymer of - **[RPMT 94, 85, AIPMT 78, 81]**

(1) Nucleotides (2) Nucleosides

(3) Amino acids (4) Nitrogen bases

**110.** Who proved DNA as genetic material - **[RPMT 94]**

(1) Griffith (2) Bacteria

(3) PPLO (4) Hershey and chase

**111.** Circular and double stranded DNA occurs in - **[RPMT 94]**

(1) Golgibody (2) Mitochondria

(3) Nucleus (4) Ctytoplasm

**112.** If there are 10,000 base pairs in DNA, then its length - **[RPMT 94 ]**

(1) 340 nm (2) 3400 nm

(3) 34000 nm (4) 340000 nm

**113.** Code in RNA corresponding to AGCT in DNA - **[RPMT 94]**

(1) TACA (2) UCGA

(3) TCGA (4) AGUC

**114.** Double helix model on DNA which was proposed by Watson and crick was of – **[RPMT 93]**

(1) C-DNA (2) B-DNA

(3) D-DNA (4) Z-DNA

**115.** Mitochondrial DNA is : **[RPMT 93]**

(1) Naked (2) Circular

(3) Double stranded (4) All the above

**116.** If there are 10,000 nitrogenous base pairs in a DNA then how many nucleotides are there - **[RPMT 93]**

(1) 500 (2) 10,000

(3) 20,000 (4) 40,000

**117.** The process of m RNA synthesis on a DNA is known as - **[RPMT 92]**

(1) Translation (2) Transcription

(3) Transduction (4) Transformation

**118.** Double helix model of DNA is proposed by - **[RPMT 92 AIPMT-79, BHU' 80' DELHI PMT 92]**

(1) Watson and Crick

(2) Scheiden schwann

(3) Singer and Nicholson

(4) Kornberg and Khurana

**119.** Which of the following nitrogen base is not found in DNA - **[AIPMT 8; RPMT 92 ]**
(1) Thymine (2) Cytosine
(3) Guanine (4) Uracil

**120.** Back bone in structure of DNA molecule is made up of - **[RPMT 91]**
(1) Pentose Sugar and phosphate
(2) Hexone sugar and phosphate
(3) Purine and pyrimidine
(4) Sugar and phosphate

**121.** Which of the following is called adaptor molecule- **[RPMT 91]**
(1) DNA (2) m-RNA
(3) r-RNA (4) RNA

**122.** Substance common in DNA and RNA – **[RPMT 90]**
(1) Hexose Sugar (2) Histamine
(3) Thymine (4) Phosphate groups

**123.** Which of following base pair is wrong – **[RPMT 88]**
(1) A-T (2) G-C
(3) A-C (4) A-U

**124.** Which may be attached with Adenine base in RNA - **[RPMT 88]**
(1) Guanine (2) Cytosine
(3) Uracil (4) Thymine

**125.** Nucleotide is - **[RPMT 88]**
(1) $N_2$ - base, pentose sugar and phosphoric acid
(2) Nitrogen, Hexose sugar and phospohoric acid
(3) Nitrogen base, pentose sugar
(4) Nitrogen base, trioses and phosphoric acid

**126.** DNA differs from RNA in - **[RPMT 88]**
(1) Only Sugar
(2) Nitrogen base only
(3) Nitrogen base and sugar
(4) None

**127.** Who propounded the theory one gene one enzyme one chemical reaction : **[BHU 82' 83 ]**
(1) Watson & Crick
(2) Greorge Beadle ad Edward Tatum
(3) Abraham Trembley
(4) T.H. Morgan

**128.** A codon in m-RNA has : **[BHU-83]**
(1) 3-bases (2) 2- bases
(3) 1-base (4) Number of bases bery

**129.** Unit of nucleic acids are – **[NCERT-76]**
(1) Phosphotic acid
(2) Nitrogenous bases
(3) Pentose Sugar
(4) Nucleotids

**130.** Which element is not found in nitrogenous base: **[NCERT 76]**
(1) Nitrogen (2) Hydrogen
(3) Carbon (4) Phosphorus

**131.** The link between successive generation is provided by - **[AIMPT -81, 84]**
(1) Nucleus (2) Cytoplasm
(3) Chromosomes (4) Nucleic acid

**132.** DNA was first discovered by - **[AIMPT 76, 85]**
(1) Meicher (2) Robert Brown
(3) Flemming (4) Watson & Circk

**133.** Nucleic acids are found in **[AIPMT-80]**
(1) Nucleus (2) Cytoplasm
(3) Both nucleus & Cytoplasm
(4) Nucleus & ribosomes

**134.** DNA is found in **[AIPMT 78, 80 , M.P. PMT 86]**
(1) ER & Ribosomes
(2) Mitochondira, Plastid & nucleolus
(3) Spherosome & Peroxysome
(4) Plasma membrane & lysosome

**135.** Nucleic acid (DNA) is not found in - **[RPMT 90; M.P. PMT 90]**
(1) Nucleus & nucleolus
(2) Peroxysome & ribosome
(3) Mitochondria & plastid
(4) Chloroplast & nucleosome

**136.** The contribution of cytoplasmic DNA in the total DNA of cell - **[DELHI PMT 86]**
(1) 90-99% (2) 65-75%
(3) 5-15% (4) 1-5%

**137.** DNA is not present in –

**[DELHI PMT 83 RPMT 89]**

(1) Mitochondira (2) Chloroplast

(3) Bacteriophage (4) TMV

**138.** In which of the following, the DNA is the principal constituent -

(1) Nucleus (2) Chromatin

(3) Ribosomes (4) Chloroplast

**139.** A nucleic acid contains thymine or methylated uracil then it should be - **[BHU' 81]**

(1) DNA (2) RNA

(3) Either DNA or RNA (4) RNA of bacteria

**140.** prokaryotic genetic system contains -

**[RPMT' 85]**

(1) DNA & histones (2) RNA & histones

(3) Either DNA or hitsones

(4) DNA but no histones

**141.** DNA histone complex can be removed from chromosome by treatment with –

**[JIPMER 85]**

(1) 6 M NaCl + $Mg[OH]_3$ (2) 1 M NaCl

(3) $Mg[OH]_3$ (4) Non - Separable

**142.** Genetic information is carried by the long chain molecules which are made up of -

**[BANGLORE PMT -81]**

(1) Amino acids (2) Nucleotides

(3) Chromosomes (4) Enzymes

**143.** A $N_2$ - base together with pentose sugar and phosphate forms (or) building - block unit of nucleic acid is : **[DELHI PMT 84; RPMT 84; AIPMT 84; MPPMT 85; ALIGARH PMT 86]**

(1) Nuceloside (2) Polypeptide

(3) Nucleotide (4) Aminoacid

**144.** One of the characteristics of DNA is -

**[DELHI PMT 84]**

(1) Uracil (2) Deoxyribose sugar

(3) Single strandedness

(4) Ability of protein synthesis

**145.** What replaces thymine in RNA -

**AIPMT 81, ALLMS 82, BHU 85]**

(1) Guanine (2) Adenine

(3) Uracil (4) Water

**146.** Khorana & his collegeous synthesized as RNA molecule with repeating sequences of U G $N_2$-bases. The RNA with "UGU GUG UGU GUG" produced a tetra peptide with alternating sequences of cytein and valine. This prove that codon for cytein & valine is

(1) UGG, GUU (2) UUG, GGU

(3) UGU & GUG (4) GUG & UGU

**147.** Purine bases of DNA are –

**[MPPMT 86 BHU, 85, AIPMT 83 89, RPMT 92]**

(1) U & G (2) A & G

(3) A & C (4) None

**148.** Which of the following $N_2$ bases are pyrimidines - **[RPMT 89]**

(1) T & C (2) T & A (3) A & C (4) G & T

**149.** Which of the following is not a pyrimidine $N_2$ base - **[JIPMER 85]**

(1) Thymine (2) Cytosine

(3) Guanine (4) Uracil

**150.** The base sequence of nucleic acid is AGG, GGA, CGA, CCA from this it can be inferred that it is a segment of - **[ALLMS 85, RPMT 90]**

(1) DNA (2) m - RNA

(3) t - RNA (4) Data insufficient

**151.** Kinds of $N_2$ bases in nucleic acids are -

**[AIPMT 81, 84, 90]**

(1) Three (2) Four

(3) Five (4) Eight

**152.** The purine & pyrimidine pairs of complementary strands of DNA are held together by -

**[AIPMT 80]**

(1) H – bonds (2) O - bonds

(3) C- bonds (4) N - bonds

**153.** Number of H - bonds between guanine and cytosine are -

(1) One (2) Two

(3) Three (4) Four

**154.** Which purine & pyrimidine bases are paired together by H - boinds in DNA - **[BHU 85]**

(1) AC & GT (2) GC & AT

(3) GA & TC (4) None of above

**155.** Watson & crick proposed the model of DNA structures in - **[AIPMT 85]**

(1) 1953 (2) 1943

(3) 1955 (4) 1963

**156.** A single stranded DNA is present in –

**[AIPMT 80 ALLM 86 MPPMT 90]**

(1) TMV (2) Salmonella

(3) Colphage $\phi \times 174$ (4) Bacteria

**157.** What is the nature of the 2 strands of a DNA duplex : **[AIPMT 80 AIIM 86 MP PMT 90]**

(1) Identical & Complimentary

(2) Antiparallel & complimentary

(3) Dissimilar & non complimentary

(4) Antiparallel & non complimentary

**158.** On an average, how many purine $N_2$ bases are present in single coil of DNA

(1) Four (2) Five

(3) Ten (4) Uncertain

**159.** Distance between two nucleotide pairs of DNA is-

(1) 0.34 nm (2) 34 $A^0$

(3) 3.4 $\mu$ (4) 34 nm

**160.** Histone occupies the major groove of a DNA at an angle of -

(1) $60^0$ (2) $90^0$

(3) $45^0$ to helix (4) $30^0$ to helix axis

**161.** DNA polymerase is needed for -

(1) Replication of DNA (2) Synthesis of DNA

(3) Elongation of DNA (4) All of above

**162.** The usual method of DNA replication is -

(1) Conservative (2) Dispersive

(3) Non conservative (4) Semi - conservative

**163.** DNA duplication occurs at

(1) Meiosis – II (2) Mitotic interphase

(3) Mitosis only (4) Meiosis and mitosis both

**164.** DNA Replication occurs at -

**[RPMT 85; BHU 86, MP PMT 85]**

(1) Go & G - (2) $G_2$ - stage

(3) S – Stage (4) Mitotic phase

**165.** RNA synthesis is controlled by -

**[ALL INDIA AIPIMT PMT 89]**

(1) Rho - factor (2) Sigma factor

(3) Endo nuclease (4) RNA - polymerase

**166.** Duplication of DNA is called - **[AFMC 82 84]**

(1) Replication (2) Transduction

(3) Transcription (4) Translation

**167.** A DNA molecule in which both strands have radioactive thymidine is allowed to duplicate in an environment containing non-radioactive thymidine. What will be the exact number of DNA molecules that contains the radio active thymidine after 3 duplications -

(1) One (2) Two

(3) Four (4) Eight

**168.** A bacterium with completely radioactive DNA was allowed to replicate in a non-radioactive medium for two generation what % of the bacteria should contain radioactive DNA

(1) 100% (2) 50% (3) 25% (4) 12.5%

**169.** DNA polymerase enzyme is required for the synthesis of - **[BHU 77 84 85 87]**

(1) DNA from DNA (2) DNA from RNA

(3) Both the above (4) DNA from nucleosides

**170.** Ligase enzyme is used for - **[BHU 85]**

(1) Denaturation of DNA

(2) Splitting DNA into small bits

(3) Joining bits of DNA

(4) Digestion of lipids

**171.** In the base sequence of one strand of DNA is GAT, TAG, CAT, GAC what shall be the sequence of its complementary strand :

**[AIPMT 84 DELHI PMT 82 M.P. PMT 90]**

(1) CAT, CTG, ATC, GTA

(2) GTA, ATC, CTG, GTA

(3) ATC, GTA, CTG, GTA

(4) CTA, ATC, GTA, CTG

**172.** In the base sequence of one starand of DNA is CAT, TAG, CAT, CAT, GAC what would be the base sequence of its complementary m-RNA- **[AFMC 82]**

(1) GUA, GUA, CUG, AUC, CUG
(2) AUG, CUG, CUC. GUA, CUG
(3) GUA, AUC, GUA, GUA, CUG
(4) GUC, CUG, CUG, CUA, CUU

**173.** DNA directed synthesis of m-RNA i called -

(1) Transcription (2) Translocation
(3) Transduction (4) Replication

**174.** The process by which DNA of the nucleus passes genetic information to m-RNA is called -

(1) Transcription (2) Translocation
(3) Translation (4) Transportation

**175.** A DNA strand is directly involved in the synthesis of all the following except – **[AIIMS 81 85]**

(1) Another DNA (2) t-RNA & m-RNA
(3) r-RNA (4) Protein

**176.** Strongest evidence that DNA is genetic material comes from - **[AIPMT 75 81 8485 M.P. PMT 84]**

(1) Chromosomes contains DNA
(2) Transformation of bacterial cells
(3) DNA is present in nucleus
(4) DNA is not present in cytoplasm

**177.** Genetic code was discovered by - **[BHY 81 84 85 87]**

(1) Nireberg & Mathei (2) Kornberg & Crick
(3) Khorana & Kornberg (4) Gamow

**178.** Genetic code was deciphered by chemically sunthesizing the trinucleotides by - **[MP PMT 90]**

(1) Watson & Crick (2) Beadle & Tatum
(3) Brigges & king (4) M.W. Niremberg

**179.** Nirenberg synthesized an m-RNA containing 34 poly-Adenine (A-A-A-A-A-A----) and found a polypeptide formed of 11 poly-lysie this proved that genetic code for lysine was **[ALL INDIA AIPMT 90; RPMT 91]**

(1) one-adenine (2) A-A doublet
(3) A-A-A triplet (4) Many adenines

**180.** 64Codons contitute gentic code because **[ALL INDIA AIPMT 90]**

(1) There was 64 types of amino acid
(2) 64 types of t-RNA
(3) Genetic code is triplet
(4) There are 64 enzymes

**181.** Degeneracy of genetic code was discover by - **[BHU 86]**

(1) Mc Clintock (2) Khorana
(3) Ochoa (4) Baurnfield & Nirenberg

**182.** Genetic code consists of **[ALL INDIA AIPMT 88]**

(1) Adenine & Guanine (2) Guanine & Cytosine
(3) Cytosine & uracil (4) All

**183.** Which codon gives signal for the start of polypeptide (protein) chain synthesis – **[AIIMS 86]**

(1) AUG (2) UGA (3) GUA (4) UAG0

**184.** The function of non sense codons is **[AIIMS 85]**

(1) To release polypeptide chain from t-RNA
(2) To form an unspecified amino acid
(3) To terminate the message of a gene controlled protein synthesis
(4) To convert a sense DNA into non sense DNA

**185.** Termination of chain growth in protein synthesis is brought about by - **[AIIMS 83]**

(1) UUG, UGC, UCA (2) UCG, GCG, ACC
(3) UAA, UAG, UGA (4) UUG, UAG, UCG

**186.** Genetic code determines - **[AIPMT 83]**

(1) Structural pattern of an organism
(2) Sequence of amino acid in protein chain
(3) Variation in offsprings
(4) constancy of morphological trait

**187.** Which of the following is employed in recombinant DNA technology - **[BHU 87]**

(1) Plastids (2) Plasmids
(3) Ribosomes (4) Histones

**188.** Fuelgen reaction is employed to establish the presence of - **[BHU 83 AFMC 83 AIPMT 85]**

(1) DNA (2) RNA
(3) Protein (4) Lipids

**189.** Chargaag's rule is given as - **[RPMT 1998]**

(1) Purines $\neq$ Pyrimidines

(2) A + G = T + C

(3) A + U = G + C

(4) A + T / G + C = Const.

**190.** In RNA Nucleotides are bonded by – **[RPMT 1998]**

(1) H - bonds (2) Phospo diester bonds

(3) Ionic bonds (4) Salt linkage

**191.** m - RNA is attached with - **[RPMT 1997]**

(1) E.R. (2) Ribosome

(3) Nucleus (4) Lycsosome

**192.** DNA of E.COLI - **[RPMT 199]**

(1) ds circular (2) ss circular

(3) ds linear (4) ss linear

**193.** Knife of DNA is - **[AIPMT 1998]**

(1) DNA ligase

(2) Restriction endonuclease

(3) Exonuclease (4) Peptidase

**194.** Sometimes the starting codon in GUG in place of AUG, GUG normally stands for :

(1) Valine (2) Glycine

(3) Methionine (4) Tyrosine

**195.** Segments of DNA which can move in genome - **[AIPM 1998]**

(1) Introns (2) Exons

(3) Transposons (4) Citrons

**196.** Transcription means synthesis of - **[MP PMT 1998]**

(1)DNA (2) Protein

(3) m – RNA (4) Enzyme

**197.** A nucleoside differs from a nucleotide is not having - **[MP PMT 1998]**

(1) Phosphate (2) Sugar

(3) Phosphate & sugar (4) Nitrogen base

**198.** Wilkins X - ray diffraction showed the diameter of the DNA helix is - **[MP PMT 1998]**

(1) 10 Å (2) 20 Å

(3) 30 Å (4) 40 Å

**199.** DNA fingerprinting method is very useful for **[MPPMT 1998]**

(1) DNA tests for identity & relation ships

(2) Forensic studies

(3) Polymorphism

(4) All of the above

**200.** A sequence of three consecutive bases in a t-RNA molecule which specifically binds to a complementary codon sequence in m RNA is known as - **[MP PMT 1998]**

(1) Triplet (2) Non-sense codon

(3) Anti codon (4) Termination codon

**201.** DNA which is composed of dinucleotide unit is -

(1) A – DNA (2) B - DNA

(3) C – DNA (4) Z - DNA

**202.** Informosomes composed of -

(1) r- RNA & proteins (2) m - RNA & proteins

(3) m - RNA & lipid (4) DNA & proteins

**203.** t-RNA attach to larger subunit of ribosomes with the help of which loop -

(1) DHU loop (2) T $\psi$ C loop

(3) Anticodon loop (4) Minor loop

**204.** In bacteria the codon AUG stands for -

(1) Glycine (2) Methionine

(3) N-formyl methionine (4) Alanine

**205.** In the DNA of an animal percentage of Adenine is 30 then percentage of Guanine will be -

(1) 40 (2) 30

(3) 20 (4) 70

**206.** Number of base pairs in human chromosomes - **[AIPMT 99]**

(1) $3 \times 10^9$ (2) $3 \times 10^7$

(3) $6 \times 10^8$ (4) $6 \times 10^7$

**207.** Gene composed of : **[AIPMT 99]**

(1) Amino acids (2) Polynucleotide

(3) Fatty acid (4) Nitrogen bases

**208.** Function of Nucleases : **[AIPMT 99]**

(1) Break the polynucleotide chain by breaking the each terminal nucleotide

(2) Breaks phosphodiester bond

(3) Breaks peptide bonds

(4) Breaks ester bonds

**209.** Molecular weight of DNA in yeast is : **[AIPMT 99]**

(1) $2.56 \times 10^9$ (2) $0.5 \times 10^9$

(3) $7 \times 10^7$ (4) $6 \times 10^6$

**210.** Similarity in DNA and RNA - **[AIPMT 200]**

(1) Both are polymer of nucleotides

(2) Both have similar pyrimidine

(3) Both have similar sugar

(4) Both are genetic material

**211.** Length of one loop of B- DNA - **[AIPMT 2000]**

(1) 3.4 nm (2) 0.34 nm (3) 20 nm (4)10 nm

**212.** ATP is - **[AIPMT 2000]**

(1) Nucleotide (2) Nucleosid

(3) Nucleic acid (4) Vitamin

**213.** In three dimensional view the molecule of t - RNA is - **[AIPMT 2000]**

(1) L-shaped (2) S-shaped

(3) Y-shaped (4) E- shaped

**214.** Which of the following is initiation codon : **[AIPMT 2000]**

(1) UAG (2) AUC (3) AUG (4) CCU

**215.** Method of DNA replication in which two strands of DNA separates and synthesize new strands : **[AIPMT 2000]**

(1) Dispersive (2) Conservative

(3) Semiconservative (4) Non conservation

**216.** In which stage of cell cycle, DNA replication occurs : **[AIPMT 2000]**

(1) $G_1$ – phase (2) S - phase

(3) $G_2$- phase (4) M - phase

**217.** Extranuclear DNA is found in : **[AIPMT 2000]**

(1) Lysosome and chloroplast

(2) Chloroplast and mitochondria

(3) Mitochondria and lysosome

(4) Golgi and E.R.

**218.** Which one of the following triplet codes, is correctly matched with its specificity for an amino acid in protein synthesis or as 'start' or 'stop' codon - **[AIPMT 2003]**

(1) UCG – Start (2) UUU - Stop

(3) UGU – Leusine (4) UAC - Tyrosine

**219.** During translation initiation in prokaryotes, a GTP molecule is needed in : **[AIPMT 2003]**

(1) Formation of formyl-met-tRNA

(2) Binding of 30S subunit of ribosome with mRNA

(3) Association of 30 S-mRNA with formyl - met tRNA

(4) Association of 50 S subunit of ribosome with initiation complex

**220.** In recent years, DNA sequences (nucleotide sequence) of mt-DNA sand Y chromosomes were considered for the study of human evolution, because : **[AIPMT 2003]**

(1) They are small, and therefore, easy to study

(2) They are uniparental in origin and do not take part in recombination

(3) Their structure is known in great detail

(4) They can be studied from the samples of Fossile remains

**221.** Degeneration of a genetic code is attributed to the : **[AIPMT 2003]**

(1) First member of a codon

(2) Second member of a codon

(3) Entire codon

(4) Third member of a codon

**222.** What would happen if in a gene encoding a polypeptide of 50 amino acids, 25th codon (UAU) is mutated to UA : **[AIPMT 2003]**

(1) A polypeptide of 24 amino acids will be formed

(2) Two polypeptides of 24 and 25 amino acids will be formed

(3) A polypeptide of 49 amino acids will be formed

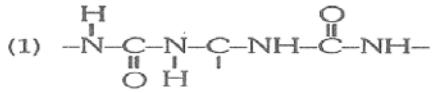
(4) A polypeptide to 25 amino acids will be formed

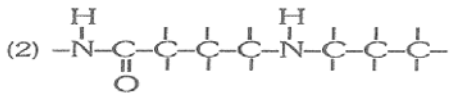
**223.** During transcription, the DNA site at which RNA polymerase binds is called : **[AIPMT 2003]**

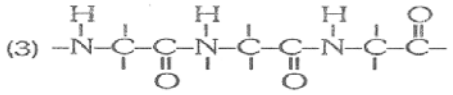
(1) Promoter (2) Regulator

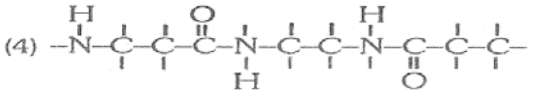
(3) Receptor (4) Enhancer

**224.** Which of the following structures represents the peptide chain ? **[AIPMT 2004]**

(1) 

(2) 

(3) 

(4) 

**225.** Which one of the following is a chain growth polymer ? **[AIPMT 2004]**

(1) Starch (2) Nucleic acid

(3) Polystyrene (4) Protein

**226.** The correct statement in respect of protein haemoglobin is that it **[AIPMT 2004]**

(1) functions as a catalyst for biological reactions

(2) maintains blood sugar level

(3) acts as an oxygen carrier in the blood

(4) forms antibodies and offers resistance to diseases.

**227.** Number of chiral carbons in $\beta$ - D - (+) - glucose is **[AIPMT 2004]**

(1) five (2) six

(3) three (4) four

**228.** The helical structure of protein is stabilized by **[AIPMT 2004]**

(1) dipeptide bonds (2) hydrogen bonds

(3) ether bonds (4) peptide bonds

**229.** Chemically hormones are **[AIPMT 2004]**

(1) Biogenic amines only

(2) Proteins, steroids and biogenic amines

(3) Proteins only

(4) Steroids only

**230.** In a mutational event, when adenine is replaced by guanine it is case of **[AIPMT 2004]**

(1) Frameshift mutation (2) Transcription

(3) Transition (4) Transversioin

**231.** In which one of the following enzymes is copper necessarily associated as a activator ? **[AIPMT 2004]**

(1) Cabonic anhydrse (2) Trrptophanase

(3) Lactic dehydrogenase (4) Tyrosinane

**232.** During transcription, if the nucleotide sequence of the DNA strand that is being coded is ATACG, then the nucleotide sequence in the mRNA would be **[AIPMT 2004]**

(1) TATGC (2) TCTGG

(3) UAUGC (4) UATGC

**233.** Which one of the following hormones is modified amino acid ? **[AIPMT 2004]**

(1) Epinephrine (2) Progesterone

(3) Prostaglandin (4) Estrogen

**234.** The most abundant element present in the plants is **[AIPMT 2004]**

(1) Carbon (2) Nitrogen

(3) Manganese (4) Iron

**235.** The following ratio is generally constant for a given species : **[AIPMT 2004]**

(1) A + G / C + T (2) T + C / G + A

(3) G + A / A + T (4) A + C / T + G

**236.** Which form of RNA has a structure resembling clover leaf ? **[AIPMT 2004]**

(1) rRNA (2) hnRNA

(3) mRNA (4) tRNA

**237.** After a mutation at a genetic locus the character of an organism changes due to the change in **[AIPMT 2004]**

(1) protein structure

(2) DNA replication

(3) protein synthesis pattern

(4) RNA transcription pattern.

**238.** During replication of a bacterial chromosome DNA synthesis starts from a replication orgin site and **[AIPMT 2004]**

(1) RNA primers are involved

(2) in facilitated by telomerase

(3) moves in one direction of the site

(4) moves in bi-directional way

**239.** A sequence of how many nucleotides in messenger RNA makes a codon for an amino acid? **[AIPMT 2004]**

(1) Three (2) Four

(3) One (4) Two

**240.** Which one of the following pairs in correctly matched with regard to the codon and the amino acid coded by ? **[AIIMS 2004]**

(1) UUU-Valine (2) AAA-Lysine

(3) AUG - Cysteine (4) CCC - Alamino

**241.** DNA is present in **[AIIMS 2004]**

(1) Chromosomes and dictyosomes

(2) Chloroplst and lysosomes

(3) Mitochondria and chloroplasts

(4) Mitochondria and endoplasmic reticulum

**242.** A completely radioactive double stranded DNA molecule undergoes two round of replication in a non radioactive medium. What will be the radioactive status of the four daughter molecules:

(1) All four still contain radioactivity

(2) Radioactivity is lost from all four

(3) Out of four, three contain radioactivity

(4) Half of the number contain no radioactivity

**243.** Consider the following sequence on m-RNA AUGGCAGUGCCA. Assuming that genetic code is overlap than how many number of codon many be present on this genetic code

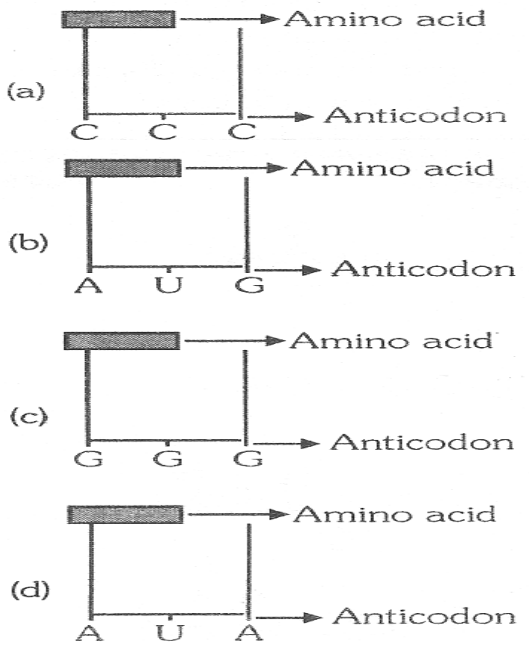
(1) 9 (2) 10 (3) 8 (4) 11

**244.** A normal DNA molecule is continuously replicate in $N^{15}$ medium that what is the % of non-radioactive DNA in 4th generation .

(1) 12.5% (2) 25%

(3) 0% (4) 6.25%

**245.** Find out the sequence of binding of the following amino acyl - t-RNA complexes during translation to an m-RNA transcribed by a DNA segment having the base sequence. 3' ATACCCATGGGG 5'. Choose the answer showing the correct order of alphabets.




(1) a,b,c,d (2) d,a,b,c

(3) a,b,d,c (4) a,b,c,d

**246.** **KHORANA** synthesized two TNAs (a) with repeat sequence of AB and (b) with repeat sequence of ABC the polypeptides coded by (a) & (b) are respectively :

(1) Homopolypeptides in both (a) and (b)

(2) Heteropolypeptides in both

(3) Homopolypeptide in (a) & peptide hetero poly in (b)

(4) Hemopholypeptide in (a) & peptide homopoly in (b)

**247.** Which of the following m-RNA is translated completely - **[AIPMT]**

(A) 5' AUG UGA UUA AAG AAA 3'

(B) 5' AUG AUA UUG CCC UGA 3'

(C) 5' AGU UCC AGA CUC UAA 3'

(D) 5' AUG UAC AGU AAC UAG 3'

(1) (A) and (B) (2) (B) and (D)

(3) (C) and (D) (4) (A) and (D)

**248.** A strand of DNA has following base sequence 3'-AAAAGTCTAGTGA - 5'. On transcription, it produces an m-RNA which of the following anticodon of r-RNA recognizes the third codon of this mRNA :

(1) AAA (2) CUG

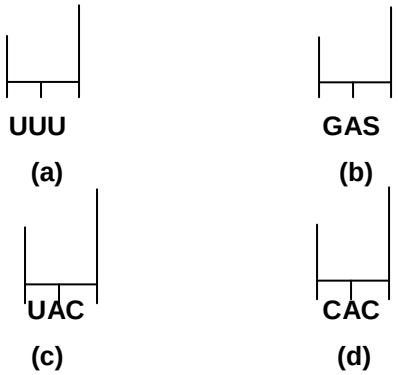
(3) GAC (4) CTG

**249.** Given below is sequence of the processed mRNA ready for translation
5' AUG CUA UAC UAA CUG CCA UGC UAG-3'
How many amino acids will present in polypeptide chain corresponding to this mRNA
(1) 7 (2) 8 (3) 6 (4) 3

**250.** If base order in one chain of DNA is "ATCGA" then how many no. of H- bond found in DNA duplex :
(1) 20 (2) 12 (3) 10 (4) 11

**251.** If an m-RNA base sequence is 5' -AUG CUA UAC CUC CUU UAU CUG UGA-3' .How many amino acid residues will make up the polypeptide corresponding to this m-RNA
(1) Ten (2) Seven (3) Eight (4) Eleven

**252.** In a m-RNA sequence of $N_2$-base is 5' AUG GUG CUC AAA' 3'. What is the correct sequence of anticodons which recognizes codons of m-RNA :




(1) a,b,c,d (2) d,a,b,c (3) c,d,b,a (4) d,c,b,a

**253.** Which of the following is the simplest amino acid- **[AIPMT 2005]**
(1) Alanine (2) Asparagine
(3) Glycine (4) Tyrosine

**254.** Enzymes, vitamins and hormones can be classified into a single category of biological chemicals, because all the these -**[AIPMT 2005]**
(1) Are exclusively synthesized in the body of a living organism as at present
(2) Enhance oxidative metabolism
(3) Are conjugated proteins
(4) Help in regulating metabolism

**255.** Which one of the following makes use of RNA as a template to synthesize DNA - **AIPMT 2005]**
(1) DNA dependant DNA polymerase
(2) DNA polymerase
(3) Reverse transcriptase
(4) RNA polymerase

**256.** Nucleotides are building blocks of nucleic acids. Each nucleotide is a composite molecule formed by - **[AIPMT 2005]**
(1) Base - sugar - OH
(2) Base - sugar - phosphate
(3) Sugar - phosphate
(4) $(\text{Base - sugar- phosphate})_n$

**257.** Protein synthesis in an animal cell occurs - **[AIPMT 2005]**
(1) On ribosomes present in cytoplasm as well as in mitochondria
(2) On ribosomes present in the nucleolus as well as in cytoplasm
(3) Only on ribosomes attached to the nuclear envelope and endoplasmic reticulum
(4) Only on the ribosomes present in cytosol

**258.** Which one of the following hydrolyses internal phosphodiester bonds in a polynucleotide chain- **[AIPMT 2005]**
(1) Lipase (2) Protease
(3) Exonuclease (4) Endonuclease

**259.** Carbohydratdes, the most abundant bimolecules on earth, are produced by - **[AIPMT 2005]**
(1) Some bacteria, algae and green plant cells
(2) All bacteria, fungi and algae
(3) Fungi, algae and green plants cells
(4) Viruses fungi and bacteria

**260.** Production of a human protein in bacteria by genetic engineering is possible because **[AIPMT 2005]**
(1) Bacterial cell can carry out the RNA splicing reactions
(2) The mechanisms of gene regulation is identical in humans and bacteria
(3) The human chromosome can replicate in bacterial cell
(4) The genetic code is universal

**261.** During transcription holoenzyme RNA polymerase binds to a DNA sequence and the DNA assumes a saddle like structure at that point. What is that sequence called``
**[AIPMT 2005, 07]**
(1) CAAT box (2) CGTT box
(3) AAAT box (4) TATA box

**262.** Which functional group participates in disulphide bond formation is proteins : **[AIPMT 2005]**
(1) Thioether (2) Thiol
(3) Thioester (4) Thiolactone

**263.** Physical basis of life is : **[RPMT 2005]**
(1) Cytoplsm (2) Protplasm
(3) Nuceloplasm (4) Endoplasm

**264.** Ribosomes are sites of which reaction :
**[RPMT 2005]**
(1) Respiration (2) Photosynthesis
(3) protein synthesis (4) Fat synthesis

**265.** In DNA purine nitrogen bases are **[RPMT 2005]**
(1) Uracil and Guanine
(2) Guanine and Adenine
(3) Adenine and cytosine
(4) None

**266.** Which of the following diasaccharide gives two molecules of glucose on hydrolysis
**[RPMT 2005]**
(1) Maltose (2) Lactose
(3) (1) and (2) both (4) Sucrose

**267.** Which of the following is the example of acidic amino acid : **[RPMT 2005]**
(1) Lysine (2) Glutamic acid
(3) Aspartic acid (4) (2) and (3)3 both

**268.** Specificity of protein is due to : **[RPMT 2005]**
(1) Types of amino acid
(2) Sequence of amino acid
(3) Number of amino acid
(4) Quantity of amino acid

**269.** Bond between phosphate and sugar in a nucleotide is : **[RPMT 2005]**
(1) H-bond (2) Covalent bond
(3) Phosphodiester bond(4) Sulphide bond

**270.** The other name for glucose is : **[RPMT 2005]**
(1) Grape sugar (2) Cane sugar
(3) Fructose (4) Galastose

**271.** Which of the following is formed in nucleolus
**[RPMT 2005]**
(1) r RNA (2) t RNA
(3) m - RNA (4) DNA

**272.** Ribosomes are composed of : **[RPMT 2005]**
(1) DNA + Protein (2) DNA
(3) RNA + Protein (4) RNA + DNA

**273.** The chemical in ovum which attracts sperms
**[RPMT 2005]**
(1) Fertilizing (2) Antifertilizin
(3) Agglutinin (4) Thrombin

**274.** cDNA probes are copied from the messenger RNA molecules with the help of : **[AIIMS 2005]**
(1) Restriction enzymes
(2) Reverse transcriptase
(3) DNA polymerase
(4) Adenosine deaminase

**275.** Which of the following biomolecule is insoluble in water : **[AIIMS 2005]**
(1) $\alpha$ = Keratin (2) Haemoglobin
(3) Rbonuclease (4) Adenine

**276.** Which one of the following statement is true for protein synthesis (translation) : **[AIIMS 2005]**
(1) Amino acids are directly recognized by m-RNA
(2) The third base of the codon is less pacific
(3) Only one codon codes for an amino acid
(4) Ebery t-RNA molecule has more than one amino acid attachment site

**277.** Which antibiotic inhibits interaction between tRNA and mRNA during bacterial protein synthesis ? **[AIPMT 2006]**
(1) Erythromycin (2) Neomycin
(3) Streoptomycin (4) Tetracyline

**278.** Amino acid sequence, in protein synthesis is decided by the sequence of **[AIPMT 2006]**
(1) tRNA (2) mRNA
(3) cDNA (4) rRNA

**279.** One gene-one enzyme hypothesis was postulated by **[AIPMT 2006]**

(1) R. Franklin (2) hershey and Chase

(3) A. Garrod (4) Beadle and Tatum

**280.** One turn of the helix in a B-form DNA is approximately **[AIPMT 2006]**

(1) 20 nm (2) 0.34 nm

(3) 3.4 nm (4) 2 nm

**281.** Antiparallel strands of a DNA molecule means that **[AIPMT 2006]**

(1) one strand turns anti clockwise

(2) the phosphate groups of two DNA strands, at their ends, share the same position

(3) the phosphate groups at the start of two DNA strands are in opposite position (pole)

(4) one strand turns clockwise

**282.** The causative agent of mad-cow disease is **[AIPMT 2006]**

(1) Bacterium (2) Prion

(3) Worm (4) Virus

**283.** During protein synthesis in an organism, at one point the process comes to a halt. Select the group of the three codons from the following from which any one of the three could bring about this halt - **[AIPMT 2006]**

(1) UUU, UCC, UAU

(2) UUU, IIA, UAC

(3) UAG, UGA, UAA

(4) UUG, UCA, UCG

**284.** Thymine is - **[AIPMT 2006]**

(1) 5-Methyl uracil (2) 4-Methyl uracil

(3) 3-Methyl uracil (4) 1-methyl uracil

**285.** Molecular basis of organ differentiation depends on the modulation in transcription by : **[AIPMT 2007]**

(1) RNA polymerase (2) Ribosome

(3) Transcription factor (4) Anticodon

**286.** The Okazaki fragments in DNA chain growth : **[AIPMT 2007]**

(1) Result in transcription

(2) Polymerize in the 3'- to -5' direction and formed replication form

(3) Prove semi - conservative nature of DNA replication

(4) Polymerize in the 5' to -3' direction and explain 3'to-5' DNA replication

**287.** The two polynucleotide chains in DNA are : **[AIPMT 2007]**

(1) Parallel (2) Discontinuous

(3) Antiparallel (4) Semiconservative

**288.** About 98 percent of the mass of every living organism is composed of just six elements including carbon, hydrogen, nitrogen, oxygen and : **[AIPMT 2007]**

(1) Phosphorus and sulphur

(2) Sulphur and magnesium

(3) Magnesium and sodium

(4) Calcium and phosphorus

**289.** A plant requires magnesium for : **[AIPMT 2007]**

(1) Holding cells together

(2) Protein synthesis

(3) Chlorophyll synthesis

(4) Cell wall development

**ROTOPLASM** **ANSWER KEY**

| Que. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ans.** | **4** | **1** | **2** | **2** | **4** | **1** | **1** | **1** | **1** | **1** | **1** | **4** | **2** | **2** | **2** | **3** | **2** | **3** | **4** | **3** |
| Que. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| **Ans.** | **3** | **4** | **1** | **2** | **1** | **2** | **2** | **1** | **1** | **4** | **3** | **4** | **3** | **1** | **1** | **1** | **3** | **1** | **2** | **3** |
| Que. | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| **Ans.** | **4** | **3** | **3** | **2** | **2** | **1** | **2** | **2** | **3** | **1** | **1** | **4** | **3** | **2** | **2** | **2** | **4** | **2** | **4** | **3** |
| Que. | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| **Ans.** | **2** | **4** | **3** | **4** | **1** | **3** | **2** | **3** | **3** | **1** | **3** | **1** | **1** | **2** | **1** | **2** | **1** | **3** | **1** | **1** |
| Que. | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| **Ans.** | **2** | **3** | **1** | **1** | **1** | **1** | **1** | **2** | **4** | **4** | **3** | **2** | **3** | **3** | **3** | **4** | **2** | **3** | **1** | **4** |
| Que. | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| **Ans.** | **1** | **3** | **2** | **3** | **4** | **3** | **1** | **4** | **1** | **4** | **2** | **2** | **2** | **2** | **4** | 3 | 2 | 1 | 4 | 1 |
| Que. | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| **Ans.** | **3** | **4** | **3** | **3** | **1** | **3** | **2** | **1** | **4** | **4** | **4** | **1** | **3** | **2** | **2** | **4** | **4** | **2** | **1** | **4** |
| Que. | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| **Ans.** | **2** | **2** | **3** | **2** | **3** | **3** | **2** | **1** | **3** | **4** | **3** | **1** | **3** | **2** | **1** | **3** | **2** | **3** | **1** | **4** |
| Que. | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 |
| **Ans.** | **4** | **4** | **4** | **3** | **4** | **1** | **2** | **2** | **3** | **3** | **4** | **3** | **1** | **1** | **4** | **2** | **1** | **4** | **3** | **3** |
| Que. | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| **Ans.** | **4** | **4** | **1** | **3** | **3** | **2** | **2** | **1** | **2** | **2** | **2** | **1** | **2** | **1** | **3** | **3** | **1** | **2** | **4** | **3** |
| Que. | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| **Ans.** | **4** | **1** | **1** | **3** | **3** | **3** | **1** | **2** | **2** | **3** | **4** | **3** | **1** | **1** | **3** | **4** | **1** | **4** | **1** | **2** |
| Que. | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 |
| **Ans.** | **3** | **4** | **2** | **3** | **2** | **4** | **2** | **3** | **4** | **2** | **2** | **3** | **3** | **4** | **3** | **2** | **1** | **4** | **1** | **4** |
| Que. | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 |
| **Ans.** | **4** | **2** | **2** | **3** | **2** | **1** | **4** | **2** | **2** | **1** | **1** | **3** | **1** | **2** | **1** | **2** | **2** | **2** | **4** | **3** |
| Que. | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | | | | | | | | | | | |
| **Ans.** | **3** | **2** | **3** | **1** | **3** | **4** | **3** | **1** | **3** | | | | | | | | | | | |