

BIOLOGY MDCAT

QUARTER-1 (UNIT 1+2+3)

TOPICS:-

✓ Cell Biology
✓ Biological Molecules

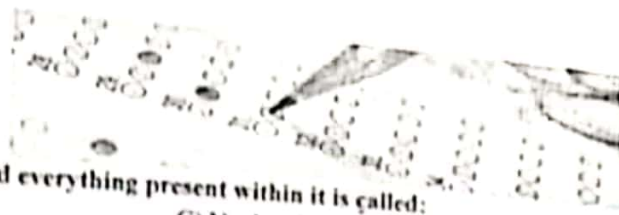
✓ Microbiology
✓ Kingdom Animalia

- Q.1** Type of transport that always involves carrier proteins:
A) Diffusion
B) Osmosis
C) Facilitated transport
D) Active transport
- Q.2** Which statement is not true of membrane phospholipids?
A) They have head and tail
B) They have hydrophilic heads
C) They have hydrophobic tails
D) They flop readily from one side of the membrane to the other
- Q.3** Polysome is formed by:
A) Several ribosomes attached to a single mRNA
B) Many ribosomes attached to a strand of endoplasmic reticulum
C) A ribosome with several subunits
D) Ribosomes attached to each other in a linear arrangement
- Q.4** The main organelle involved in routing of newly synthesized proteins to their destinations is:
A) Mitochondria
B) Endoplasmic reticulum
C) Vacuole
D) Chloroplast
- Q.5** An organelle shows highly folded inner wall. Ultrasonic disruption of the organelle yields fragments, which can synthesize ATP. The organelle is:
A) Mitochondrion
B) Chloroplast
C) Ribosome
D) Centrosome
- Q.6** Lysosomes are known as suicidal bags because of:
A) Catalytic activity
B) Hydrolytic enzymes
C) Isomerases
D) Ligases
- Q.7** Granular E.R. differs from smooth E.R.:
A) In having ribosome on its surface
B) In detoxifying drugs
C) In playing role in steroid synthesis
D) In storing calcium ions
- Q.8** Centrosome is responsible for:
A) Cell wall formation
B) Cell plate formation
C) Initiation of cell division
D) Inhibition of cell division
- Q.9** All are differences of prokaryotic cell from eukaryotic cell except:
A) Circular chromosomal DNA
B) Large sized cells
C) Have plasmid
D) Transcription in cytoplasm
- Q.10** A crista is mainly made up of:
A) Glycoproteins
B) Glycolipids
C) Lipoproteins
D) Phospholipids
- Q.11** All of the following processes take place in mitochondria except:
A) Anaerobic respiration
B) Aerobic respiration
C) Oxidative phosphorylation
D) Fatty acid metabolism
- Q.12** It is not a function of SER:
A) Storage of Ca^{+2}
B) Protein synthesis
C) Mechanical support
D) Detoxification
- Q.13** Which of the following is a complex of globular protein with non-proteinaceous material?
A) Collagen
B) Egg albumen
C) Haemoglobin
D) Fibrinogen

- Q.14 In a genetic engineering experiment a piece of DNA is transcribed and translated into protein. How many amino acids would be required?
 A) 500
 B) 1000
 C) 3000
 D) 4500
- Q.15 The ring form of fructose is called:
 A) Fructopyranose
 B) Fructocellulose
 C) Fructofuranose
 D) Ribofuranose
- Q.16 The only carbohydrate that contains nitrogen is:
 A) Cellulose
 B) Chitin
 C) Galactose
 D) Amylopectin
- Q.17 Number of peptide bonds in an insulin molecule are:
 A) 51
 B) 50
 C) 49
 D) 2
- Q.18 Histone proteins are positively charged due to:
 A) Acidic amino acids
 B) Basic amino acids
 C) Neutral amino acids
 D) Amphoteric amino acids
- Q.19 Which type of bond is common in all proteins?
 A) Hydrogen bond
 B) Peptide bond
 C) Ionic bond
 D) Disulphide linkage
- Q.20 Which of the following is common between Lock and Key model and Induce Fit model?
 A) Enzymes are specific in nature
 B) Enzymes are rigid structures showing no change during reaction
 C) Enzymes structure is changed during reaction
 D) Enzyme acts as template
- Q.21 After a certain limiting concentration of substrate, increasing the concentration of enzyme two times, rate of reaction will:
 A) Increase four times
 B) Increase three times
 C) Increase two times
 D) Remain constant
- Q.22 Which form of carbohydrate is found in DNA?
 A) Aldo pentose
 B) Keto pentose
 C) Aldo hexose
 D) Keto hexose
- Q.23 In the absence of _____, substrate molecule will not fit correctly at active site and no catalytic activity will occur.
 A) Prosthetic group
 B) Coenzyme
 C) Cofactor
 D) Inhibitor
- Q.24 Which part of fatty acid participate in reaction during formation of ester linkage?
 A) Alcohol group
 B) Carboxyl group
 C) Amino group
 D) Hydrocarbon group
- Q.25 Lipids carrying polar head and non-polar tail are:
 A) Glycolipids
 B) Nucleolipids
 C) Phospholipids
 D) Triglycerides
- Q.26 Which type of amino acids are present on surface in tertiary structure in aqueous solution?
 A) Essential amino acids
 B) Hydrophilic amino acids
 C) Hydrophobic amino acids
 D) Non essential amino acids
- Q.27 These are reactive parts of amino acids involved in condensation reactions:
 A) Alpha carbon & Hydrogen
 B) Carboxyl group & R group
 C) Amino & Carboxyl group
 D) Only R group
- Q.28 It is an example of fibrous protein;



- Q.29 Which structural level is most significant in globular proteins?
A) Primary
B) Secondary
C) Quaternary
D) Tertiary
- Q.30 The cofactor usually acts as "bridge" between:
A) Enzyme & substrate
B) Enzyme & product
C) Coenzyme & substrate
D) Activator & substrate
- Q.31 All enzymes are:
A) Polypeptides
B) Proteins
C) Globular proteins
D) Fibrous proteins
- Q.32 Retroviruses contain:
A) Single stranded RNA
B) Single stranded DNA
C) Double stranded RNA
D) Double stranded DNA
- Q.33 Cell membrane is present in all of the following except:
A) Viruses
B) Eubacteria
C) Archaeobacteria
D) Amoeba
- Q.34 Which of the following is absent in bacteria?
A) Genetic recombinations
B) Fimbriae
C) Ability to respire aerobically
D) Mitotic cell division
- Q.35 Bacterial nucleoid is mainly involved in:
A) Metabolism
B) Drug resistance
C) Genetic engineering
D) Insect resistance
- Q.36 Mostly bacteria are:
A) Heterotrophs
B) Autotrophs
C) Saprotrophs
D) Parasites
- Q.37 Literal meaning of antibiotics is:
A) Against bacteria
B) Against antigens
C) Against life
D) Against biomass
- Q.38 Except zygospore, structures formed during life cycle of *Rhizopus* are mostly:
A) Diploid
B) Haploid
C) Triploid
D) Polyploid
- Q.39 *Rhizopus* belongs to:
A) Sac fungi
B) Imperfect fungi
C) Conjugating fungi
D) Club fungi
- Q.40 How many tail fibers are present in T4 phage?
A) 2
B) 6
C) 4
D) 8
- Q.41 Phage that becomes part of bacterial chromosome is called:
A) Lytic phage
B) Prophage
C) Lysogenic phage
D) Virulent phage
- Q.42 It is commonly present in both Gram positive and Gram negative bacterial cell wall:
A) Lipopolysaccharides
B) Teichoic acids
C) Peptidoglycan
D) Lipoproteins
- Q.43 Bacteria that get their food from humus are:
A) Saprophytic
B) Photosynthetic
C) Parasitic
D) Chemosynthetic
- Q.44 They belong to group paramyxoviruses:
A) HIV
B) Measles virus
C) Poliovirus
D) Influenza virus
- Q.45 All bacterial cells have all of the following except:
A) Cell membrane
C) Chromatin body



- Q.46 The plasma membrane and everything present within it is called:
 A) Cytoplasm
 B) Protoplasm
 C) Nucleoplasm
 D) Glycocalyx
- Q.47 It is a yeast that grows on shower curtains and moist places:
 A) *Saccharomyces*
 B) *Candida*
 C) *Aspergillus*
 D) *Rhodotorula*
- Q.48 A multicellular eukaryotic heterotroph whose cells lack cell wall is a/an:
 A) Protist
 B) Virus
 C) Animal
 D) Plant
- Q.49 Which of the following is not a group of Animalia?
 A) Protozoa
 B) Parazoa
 C) Metazoa
 D) Eumetazoa
- Q.50 Animals belonging to echinodermata do not have:
 A) Radial symmetry
 B) Diploblastic organization
 C) Indeterminate cleavage
 D) Triploblastic organization
- Q.51 Immune system is developed from:
 A) Ectoderm
 B) Mesoderm
 C) Endoderm
 D) Choanoderm
- Q.52 These are coelomates:
 A) Flatworms
 B) Roundworms
 C) Segmented worms
 D) Sponges
- Q.53 Which of the following statement is true about pseudocoelom?
 A) It develops from blastocoels of the embryo
 B) Externally it is bounded by the muscles and internally by cuticle of intestine
 C) It is a space between body wall and digestive tube
 D) All A, B, C
- Q.54 Virtually all biologists agree that animals evolved from:
 A) Parazoans
 B) Protoctists
 C) Poriferans
 D) Prokaryotes
- Q.55 Structures for attachment in *Fasciola* are:
 A) Hooks
 B) Stylets
 C) Suckers
 D) Rhizoids
- Q.56 Arthropods have:
 A) Coelom
 B) Blastocoel
 C) Pseudocoel
 D) Haemocoel
- Q.57 The last segments of *Taenia* that contain fertilized egg and are detached:
 A) Gemmules
 B) Proglottids
 C) Hormogonia
 D) Appendages
- Q.58 An annelid also known as natural plough due to its burrowing activity is:
 A) *Nereis*
 B) *Pheretima*
 C) *Stylaria*
 D) *Hirudo*
- Q.59 Nervous system of insects consists of:
 A) Paired ganglia with double ventral nerve cord
 B) Paired ganglia with double dorsal nerve cord
 C) Brain in head and a spinal cord running across body
 D) Simple brain with a single ventral nerve cord
- Q.60 A proper respiratory system, consisting of tracheal tubules, first time appeared in which group?
 A) Nematodes