

Section-A

Multiple Choice Questions (MCQ's)

Q.1 Choose the correct answer for each from the given options:

1. The prokaryotes may have evolved from ancestors called:
(a) Protobionts (b) Virion
(c) Eukaryote (d) RNA
 2. The earliest undisputed evidence of life on earth dates at least from:
(a) 3.5 billion years ago (b) 4.5 billion years ago
(c) 2.5 billion years ago (d) 5.5 billion years ago
 3. Gram positive bacterial peptidoglycan layer is:
(a) Thick (b) Moderate (c) Thin (d) No
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4. Choose the incorrect pair?
(a) Sponges → Spicules (b) Snidaria → Nematocysts
(c) Segmented worm → Psuedopodia (d) Arthropoda → jointed leg
 5. Waster movement through sponge?
(a) Ostia → Spongooel → Osculum
(b) Spongocoel → Osculum → Ostia
(c) Ostia → Osulum → Spongooel
(d) Osculum → Spongocoel → Ostia
 6. The type of digestion in Planaria is:
(a) Intracellular (b) Extracellular
(c) Intercellular (d) Both a & b

7. **Number of milk teeth is:**
(a) 10 (b) 15 (c) 20 (d) 25
8. **Teeth meant for cutting are:**
(a) Incisors (b) Canines (c) Pre-molars (d) Molars
9. **The part of gut also associated with respiratory system is:**
(a) Stomach (b) Esophagus (c) Pharynx (d) Both a & b
10. **Average blood pressure is lowest in which structure (s)**
(a) Aorta (b) Arterioles (c) Capillaries (d) Vena cava
11. **The type of immunity through the transfer of antibodies from mother to her fetus is:**
(a) Natural Active Immunity (b) Natural Passive Immunity
(c) Artificial Active Immunity (d) Artificial Passive Immunity
12. **Antibodies are secreted by:**
(a) T cells (b) B Cells
(c) Plasma cells (d) Macrophages
13. **Which of the following is / are a cause (s) of vasoconstriction?**
(a) Lying down after standing (b) Standing after lying down
(c) Stress or hormone concentration (d) Histamine secretion
14. **Lymph most closely resembles which of the following?**
(a) Blood (b) urine (c) Plasma (d) Interstitial fluid
15. **Damage to the S.A Node in humans:**
(a) Is a major contributor to heart attacks
(b) Would block conductance between the bundle branches and the purkinje fibers
(c) Would have a negative effect on peripheral resistance
(d) Would disrupt the rate and timing of cardiac muscle contractions

Section-B
(Short Questions)

Note: Answer any 08 questions of the following:

- Q.2 List out the way of Second line of Defense.
- Q.3 How a virus survives without host discuses.
- Q.4 What are the symptoms of Aids?

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- Q.5 Explain the bacterial diseases in Man with their signs, symptoms, treatment and prevention.
 - Q.6 Why N_2 is included n mineral nutrient although it is not mineral?
 - Q.7 How annual rings are formed?
 - Q.8 What are growth regulators?
 - Q.9 List out four autoimmune disorder of man?
 - Q.10 Enlist the role of large intestine?
 - Q.11 What are the health risks involved in obesity?
 - Q.12 What are LUB and DUB.

Section-C
(Descriptive Question)

Note: Answer any 02 question of the following:

- Q.13 Give an account of exchange of gases in plants?
- Q.14 State and explain the process of digestion in amoeba?
- Q.15 Explain the unedifying mechanism of fever. State and Explain protective role as well as harmful effects.
- Q.16 What is the mechanism of inspiration and expiration?
- Q.17 What are mammals? Name its sub classes Give the characters and example of each sub class.

Section-A

Multiple Choice Questions (MCQ's)

21 Choose the correct answer for each from the given options:

1 The body wall of Obelia is:

- (a) 2 cell layered (b) 3 cell layered (c) 4 cell layered
(d) None of these

2 Practically all absorption of digested food occurs in:

- (a) Large intestine (b) Small intestine (c) Both (a) and (b)
(d) None of these

3 Amphibians have the following number of heart chambers.

- (a) 2 (b) 3 (c) 4 (d) 5

4 Pace-maker is located in:

- (a) Liver (b) Brain (c) Heart (d) Muscle

5 Insect has:

- (a) 3 pairs of legs (b) Brain (c) 5 pairs of legs (d) 6 pairs of legs

6 The study of parasitic organisms, their life cycles, mode of transmission and interaction with their hosts is:

- (a) Human biology (b) Microbiology
(c) Parasitology (d) Social biology

7 True metamerism is characteristic of:

- (a) Mollusca (b) Annelida
(c) Arthropoda (d) Protozoa

8 The sound box in birds is:

- (a) Larynx (b) Trachea (c) Syrinx (d) All of these

9 Electron transport chain is located in:

- (a) Cytoplasm (b) Mitochondria
(c) Lysosomes (d) None of these

10 In polychaetes, the locomotory organ is:

- (a) Pseudopodium (b) Notopodium
(c) Parapodium (d) None of these

Life originated:

- (a) in air (b) on land (c) in water (d) All of these

Open-type of blood vascular system is present in:

- (a) Echinodermata (b) Chordata (c) Mollusca (d) None of these

Gammules are produced in:

- (a) Annelida (b) Arthropoda (c) Porifera (d) None of these

Contractile vacuole in Protozoa is basically concerned with:

- (a) Excretion (b) Osmoregulation (c) Porifera (d) Protozoa

Interacellular digestion take place:

- (a) Earth worm (b) Planaria (c) Grass hopper
(d) Amoeba

Largest gland of body is:

- (a) Liver (b) Pancreas (c) Pituitary gland

(d) Thyroid gland

(17) In sycon, water leaves the sponge through:

- (a) Ostia (b) Osculum (c) Madrioporie
(d) All of these

(18) Enzymes are chemically:

- (a) Carbohydrates (b) Lipids (c) Proteins (d) Lipoprotein

(19) Bipinnaria is the larval form of:

- (a) Coelenterata (b) Polychaeta
(c) Echinodermata (d) None of these

(20) Silver fish is included in:

- (a) Arthropoda (b) Pisces (c) Aves (d) Annelida

(21) Flame cell is typical of:

- (a) Annelida (b) Chordata (c) Platyhelminthes (d) Pore ear

Section-B

Short Answer

Note: Answer any Three of the following questions.

Q.2 Distinguish between any one of the following:

- (i) Cell wall and cell membrane
- (ii) Mitochondria and Plastids

Q.3 Outline 3 lines of defense:

Q.4 What are the three most important characters of Amphibia.

Q.5 What features made the arthropoda a successful group?

Q.6 Define the following terms:

- | | |
|------------|--------------|
| Glyoxysome | Golgi bodies |
| Spicule | Ribozyme |

Section-C

(Descriptive Answer)

Note: Answer any TWO of the following questions.

Q.7 Explain the mechanism of inspiration and expiration and expiration in man. illustrate your answer with the help of a labeled diagram.

Q.8 Discuss the process of digestion in human stomach and small intestine.

Section-A**(Multiple Choice Questions (MCQ's))**

Q.1 Choose the correct answer for each from the given options:

(i) The study of an organism who depends upon another living organism and harms him is called:

- (a) Microbiology (b) Cytology (c) Molecular Biology
(d) Parasitology

(ii) One fatty acid + on alcohol =

- (a) Acyloglycerol (b) Sucrose (c) Molecular Biology
(d) Nucleoside

(iii) A type fo polynucleotide acting as carrier of information is:

- (a) ATP (b) NAD (c) mRNA (d) AMP

(iv) The non-Protein part of an enzyme is:

- (a) Prosthetic group (b) Co-enzyme (c) Co-factor (d) All of these

(v) The twisting of visceral mass at 180° in asymmetrical mollusk is:

- (a) Metamerism (b) Torsion (c) Metamorphosis (d) None of these

(vi) A psychological condition characterized by prolonged inability or refusal to eat is:

- (a) Dyspepsia (b) Anorexia nervosa (c) Mainutrition (d) Piles

(vii) It is present in a blood capillary:

- (a) Tunica externa (b) Tunica media (c) Tunica intima (d) None of these

(viii) Most of the CO_2 in blood is transported in the form of:

- (a) KHCO_3 (b) NaHCO_3 (c) CO_2 (d) CarboxyHB

Section-A(MCQ's)

Q.1 Choose the Correct Answers of the following:

- (i) The process of clotting of blood involves:
(a) RBCs (b) Platelets (c) WBCs (d) Both (b) and (c)
- (ii) Filaments present in Flagella and Cilia are:
(a) Microfilaments (b) Microtubules (c) Intermediate filaments
(d) Microvilli
- (iii) Which of the following is not a sub group of Chordata?
(a) Cephalochordata (b) Urochordata (c) Hemichordata
(d) None of these
- (iv) Inactive Trypsinogen is changed to Trypsin by _____.
(a) Gastrin (b) Enterokinase (c) Secretin (d) None of these
- (v) This part of enzyme is an organic molecules, about 1% of entire enzyme and easily separable.
(a) Co-enzyme (b) Apoenzyme (c) Activator (d) Prosthetic group
- (vi) The arched or dome-shaped partition between the thorax and abdomen is:-
(a) Diaphragm (b) Septum (c) Peritoneum (d) Pericardium
- (vii) Which one of the following is correct being a double membraned organelle?
(a) Peroxisome and Lysosome (b) Chloroplast and Lysosome
(c) Nucleus and Chloroplast (d) Nucleus and Lysosome
- (viii) Glycolipids and Lipoproteins are important components of:
(a) Proteins (b) Nucleic acids (c) Bone marrow (d) Cellular membrane

Section-B (Short Answer)

Note: Answer any TEN of the following questions. Question No.2 is compulsory which carries 03 marks and other all question carry 02 marks.

- Q.2 Distinguish any ONE of the following:
(i) Nucleus and Nucleolus
(ii) Urochordate and Cephalochordata
- Q.3 What is Fluid Mosaic Model?
- Q.4 In which type of cells smooth endoplasmic reticulum is found mostly and what are its functions?
- Q.5 On what basis kingdom animalia is classified into two sub-kingdoms? Name these sub-kingdoms and the phyla included in them.
- Q.6 What is INNATE IMMUNITY? What are its characteristic features?
- Q.7 Define any TWO of the following:
(i) Biological control (ii) Hydrolysis
(iii) Macrophage (iv) Pinocytosis
- Q.8 How complete ventilation is achieved by birds?
- Q.9 At a certain high substrate concentration the reaction of the enzyme slows down or stops, why?
- Q.10 Describe the groups of Proteins associated with Plasma membrane.
- Q.11 How the lining of mid gut in cockroach is protected from hard particles?
- Q.12 Where are SA node, AV node, Purkinje fibres and "Bundles of His" located in the heart and what functions they performed?
- Q.13 What do you understand by the terms, anorexia nervosa and bulimia nervosa?
- Q.14 Amphibians are unsuccessful animals. Explain.

Section-C

(Descriptive Answer)

Note: Answer any ONE of the following questions in detail which carries 13 marks.

Draw labeled diagrams where necessary.

- Q.15 (a) Write down the diagnostic features of phylum ARTHROPODA and three of its classes. Give examples.
(b) What is Tracheal system? Explain with the help of suitable diagram.
- Q.16 (a) Explain the internal structure of human heart using illustration.
(b) What is HOLOZOIC NUTRITION? Describe the characteristic processes involved in Holozoic Nutrition giving the example of planaria.