#### ZOOLOGY. UNIT I Chapter 1 The Living World **Evaluation**: 1. A living organism is differentiated from non-living structure based on a. Reproduction b. Growth c. Metabolism d. Movement 2. A group of organisms having similar traits of a rank is a. Species b. Taxon c. Genus d. Family 3. Every unit of classification regardless of its rank is b. Variety a. Taxon c. Species d. Strain 4. Which of the following is not present in same rank? a. Primata c. Diptera b. Orthoptera d. Insecta 5. What taxonomic aid gives comprehensive information about a taxon? a. Taxonomic Key b. Herbarium c. Flora d. Monograph 6. Who coined the term biodiversity? a. Walter Rosen b. AG Tansley d. AP de Candole c. Aristotle 7. Cladogram considers the following characters a. Physiological andBiochemical b. Evolutionary and Phylogenetic c. Taxonimic and systematic d. None of the above 8. Molecular taxonomic tool consists of a. DNA and RNA b. Mitochondria and d. All the Endocplamic reticulum c. Cell wall and Membrane proteins above 9. Differentiate between probiotics and pathogenic bacteria 10. Why mule is sterile in nature? 11. List any five salient features of the family Felidae 12. What is the role of Charles Darwin in relation to concept of species? 13. Why elephants and other wild animals are entering into human living area? 14. What is the difference between a Zoo and wild life sanctuary? 15. Can we use recent molecular tools to identify and classify organisms? 16. Explain the role of Latin and Greek names in Biology UNIT I Chapter 2 Kingdom Animalia Evaluation 1. The symmetry exhibited in cnidarians is b. Bilateral c. Pentamerous radial a. Radial d. Asymmetrical 2. Sea anemone belongs to phylum c. Coelenterata a. Protozoa b. Porifera d. Echinodermata 3. The excretory cells that are found in platyhelminthes are b. Flame cells c. Solenocytes d. All of these a. Protonephridia 4. In which of the following organisms, self fertilization is seen. b. Round worm c. Earthworm d. Liver fluke a. Fish 5. Nephridia of Earthworms are performing the same functions as

- b. Flame cells of Planaria a. Gills of prawn
- c. Trachea of insects d. Nematoblasts of Hydra
- 6. Which of the following animals has a true coelom?

b. Pheretima c. Sycon d. Taenia solium a. Ascaris

7. Metameric segmentation is the main feature of

b. Echinodermata c. Arthropoda d. Coelenterata a. Annelida 8. In Pheretima locomotion occurs with help of b. longitudinal muscles and setae a. circular muscles c. circular, longitudinal muscles and setae d. parapodia 9. Which of the following have the highest number of species in nature? a. Insects c. Angiosperms b. Birds d. Fungi 10. Which of the following is a crustacean? b. Snail c. Sea anemone d. Hydra a. Prawn 11. The respiratory pigment in cockroach is a. Haemoglobin b. Haemocyanin c. Oxyhaemoglobin d. Haemoerythrin 12. Exoskeleton of which phylum consists of chitinous cuticle? c. Arthropoda a. Annelida b. porifera d. Echinodermata 13. Lateral line sense organs occur in b. Frog c. Water snake d. Fish a. Salamander 14. The limbless amphibian is b. Hyla c. Rana d. Salamander a. Icthyophis 5. Four chambered heart is present in b. Snake c. Scorpion d. Crocodile a. Lizard 16. Which of the following is not correctly paired? a. Humans – Ureotelic b. Birds – Uricotelic c. Lizards – Uricotelic d. Whale – Ammonotelic 17. Which of the following is an egg laying mammal? a. Delphinus b. Macropus c. Ornithorhynchus d. Equus 18. Pneumatic bones are seen in c. Reptilia d. Sponges a. Mammalia b. Aves 19. Match the following columns and select the correct option. Column – I Column – II (i) Devil fish (p) Pila (q) Dentalium (ii) Chiton (r) Chaetopleura (iii) Apple snail (iv) Tusk shell (s) Octopus b. p - (iii), q - (iv), r - (ii), s - (i)d. p - (i), a - (ii), r - (iii), s - (i)a. p - (ii), q - (i), r - (iii), s - (iv)c. p - (ii), q - (iv), r - (i), s - (iii)20. In which of the following phyla, the adult shows radial symmetry but the larva shows bilateral symmetry? b. Echinodermata d. Annelida a. Mollusca c. Arthropoda 21. Which of the following is correctly matched? a. Physalia – Portugese man of war b. Pennatula – Sea fan c. Adamsia – Sea pen d. Gorgonia - Sea anemone 22. Why are spongin and spicules important to a sponge? 23. What are the four characteristics common to most animals? 24. List the features that all vertebrates show at some point in their development. 25. Compare closed and opened circulatory system 26. Compare Schizocoelom with enterocoelom 27. Identify the structure that the archenteron becomes in a developing animal. 28. Observe the animal below and answer the following questions a. Identify the animal



b. What type of symmetry does this animal exhibit?

c. Is this animal Cephalized?

d. How many germ layers does this animal have?

e. How many openings does this animal's digestive system have? f. Does this animal have neurons?

29. Choose the term that does not belong in the following group and explain why it does not belong? Noto chord, cephalisation, dorsal nerve cord and radial symmetry

30. Why flatworms are called acoelomates?

31. What are fl ame cells?

32. Concept Mapping - Use the following terms to create a concept map that shows the major characteristic features of the phylum nematoda: Round worms, pseudocoelomates, digestive tract, cuticle, parasite, sexual dimorphism

33. In which phyla is the larva trochopore found?

- 34. Which of the chordate characteristics do tunicates retain as adults?
- 35. List the characteristic features that distinguish cartilaginous fishes shes with living jaw

less fishes shes

- 36. List three features that characterise bony fishes.
- 37. List the functions of air bladder in fishes.
- 38. Write the characteristics that contributes to the success of reptiles on land
- 39. List the unique features of bird's endoskeleton.

40. Could the number of eggs or young ones produced by an oviparous and viviparous female be equal? Why?

## UNIT II Chapter 3 In multicellular organisms

### Evaluation

1. The main function of the cuboidal epithelium is

a. Protection b. Secretion c. Absorption d. Both (b) and (c)

- 2. The ciliated epithelium lines the
- a. Skin b. Digestive tract c. Gall bladder d. Trachea
- 3. What type of fibres are found in connective tissue matrix?
- a. Collagen b. Areolar c. Cartilage d. Tubular
- 4. Prevention of substances from leaking across the tissue is provided by
- a. Tight junction b. Adhering junction c. Gap junction d. Elastic junction
- 5. Non-shivering thermogenesis in neonates produces heat through
- a. White fat b. Brown fat c. Yellow fat d. Colourless fat
- 6. Some epithelia are pseudostratified. What does this mean?
- 7. Differentiate white adipose tissue from brown adipose tissue.
- 8. Why blood is considered as a typical connective tissue?
- 9. Differentiate between elastic fibres and elastic connective tissue.

- 10. Name any four important functions of epithelial tissue and provide at least one example of a tissue that exemplifies each function.
- 11. Write the classification of connective tissue and their functions
- 12. What is an epithelium? Enumerate the characteristic features of different epithelia.

# UNIT II Chapter 4 Organ and Organ Systems in Animals

### Evaluation

- 1. The clitellum is a distinct part in the body of earthworm Lampito mauritii, it is found in?
- a. Segments 13 14 b. Segments 14 17 c. Segments 12 13 d. Segments 14 16
- 2. Sexually, earthworms are
- a. Sexes are separate b. Hermaphroditic but not self fertilizing
- c. Hermaphroditic and self fertilizing d. Parthenogenic

3. To sustain themselves, earthworms must guide their way through the soil using their powerful muscles. They gather nutrients by ingesting organic matter and soil, absorbing what they need into their bodies. True or False: The two ends of the earthworm can equally ingest soil.

a. True b. False

- 4. The head region of Cockroach pairs of and shaped eyes occur.
- a. One pair, sessile compound and kidney shaped
- b. Two pairs, stalked compound and round shaped
- c. Many pairs, sessile simple and kidney shapedd.
- d.Many pairs, stalked compound and kidney shaped
- 5. The location and numbers of malpighian tubules in Periplaneta.
- a. At the junction of midgut and hindgut, about 150.
- b. At the junction of foregut and midgut, about 150
- c. Surrounding gizzard, eight.
- d. At the junction of colon and rectum, eight.
- 6. The type of vision in Cockroach is

a. Three dimensional b. Two dimensional c. Mosaic d. Cockroach do not have vision

- 7. How many abdominal segments are present in male and female Cockroaches?
- a. 10, 10 b. 9, 10 c. 8, 10 d. 9, 9
- 8. Which of the following does not have an open circulatory system?
  - a. Frog b. Earthworm c. Pigeon d. Cockroach
- 9. Buccopharyngeal respiration in frog
- a. is increased when nostrils are closed
- c. is increased when it is catching fly
- 10. Kidney of frog is

- b. Stops when there is pulmonary respirationd. stops when mouth is opened.
- a. Archinephros b. Pronephros c. Mesonephros d. Metanephros
- 11. Presence of gills in the tadpole of frog indicates that
- a. fishes were amphibious in the past b. fishes involved from frog -like ancestors
- c. frogs will have gills in future d. frogs evolved from gilled ancestor
- 12. Choose the wrong statement among the following:
- a. In earthworm, a single male genital pore is present.
- b. Setae help in locomotion of earthworms.
- c. Muscular layer in the body wall of earthworm is made up of only circular muscles.
- d. Typhlosole is part of the intestine of earthworm.

| į | 13. Which of the following are the sense organs of Cockroach?                            |  |  |  |  |  |
|---|--|--|--|--|--|--|
| į | a. Antennae, compound eyes, maxillary palps, anal cerci                                  |  |  |  |  |  |
| į | b. Antennae, compound eye, maxillary palps   |  |  |  |  |  |
| į | c. Antennae, ommatidia, maxillary palps, sternum   |  |  |  |  |  |
| į | d. Antennae, eyes, maxillary palps, and tarsus of walking legs                           |  |  |  |  |  |
|   | 14. Pneumatic bone is found in   |  |  |  |  |  |
|   | a. Shark b. Rana c. Pigeon d. Whale  |  |  |  |  |  |
|   | 15. What is the function of the preen gland?   |  |  |  |  |  |
|   | a. produce digestive enzymes. b. To release scents that help attract mates.              |  |  |  |  |  |
| ļ | c. To control salt balance in the body. d. To produce an oil substance used to condition |  |  |  |  |  |
| į | the reathers.  |  |  |  |  |  |
| į | a Coverts h Remissor a Down foothers d Parhules  |  |  |  |  |  |
| į | a. Coverts 0. Reiniges C. Down reatiles are  |  |  |  |  |  |
| į | a Urea b Ammonia c Uric acid d Ammonia and uric acid                                     |  |  |  |  |  |
| į | 18 Which of the following is an adaptation to the aerial mode of life in Pigeon          |  |  |  |  |  |
| į | a Single overy on the left side b Pair of overy on both the side                         |  |  |  |  |  |
|   | c Single overy on the right side d Both (a) and (c)                                      |  |  |  |  |  |
|   | 19. What characteristics are used to identify the earthworms?                            |  |  |  |  |  |
|   | 20. What are earthworm casts?  |  |  |  |  |  |
|   | 21. How do earthworms breathe?   |  |  |  |  |  |
|   | 22. Why do you call cockroach a pest?  |  |  |  |  |  |
|   | 23. Comment on the functions of alary muscles?   |  |  |  |  |  |
|   | 24. Name the visual units of the compound eyes of cockroach.                             |  |  |  |  |  |
|   | 25. How does the male frog attracts the female for mating?                               |  |  |  |  |  |
|   | 26. Write the types of respiration seen in frog.   |  |  |  |  |  |
| ļ | 27. Differentiate between peristomium and prostomium in earthworm.                       |  |  |  |  |  |
| į | 28. Give the location of clitellum and spermathecal openings in Lampito mauritii.        |  |  |  |  |  |
| į | 29. Differentiate between tergum and a sternum.  |  |  |  |  |  |
| į | 30. Head of cockroach is called hypognathous. Why?                                       |  |  |  |  |  |
| į | 31. What are the components of blood in frog?  |  |  |  |  |  |
| į | 32. Draw a neat labeled diagram of the digestives system of frog.                        |  |  |  |  |  |
| į | 33. Explain the reproductive system of frog  |  |  |  |  |  |
| į | 54. List the characteristics features of Pigeon.   |  |  |  |  |  |
| į | 36 Explain the reproductive system of frog   |  |  |  |  |  |
|   | 30. Explain the reproductive system of nog   |  |  |  |  |  |
|   | s recomment on the role of an such in mercusing the respiratory efficiency in onds.      |  |  |  |  |  |
|   | UNIT III Chapter 5 Digestion and Absorption  |  |  |  |  |  |

### Evaluation

- 1. Choose the incorrect sentence from the following:
- a. Bile juice emulsifies the fat. b. Chyme is a digestive acidic food in stomach.
- c. Pancreatic juice converts lipid into fatty acid and glycerol.
- d. Enterokinase stimulates the secretion of pancreatic juice.
- 2. What is chyme....?
- a. The process of conversion of fat into small droplets.
- b. The process of conversion of micelles substances of glycerol into fatty droplet.

c. The process of preparation of incompletely digested acidic food through gastric juice. d. The process of preparation of completely digested liquid food in midgut. 3. Which of the following hormones stimulate the production of pancreatic juice and bicarbonate? b. Gastrin and insulin a. Angiotensin and epinephrine c. Cholecysokinin and secretin d. Insulin and glucagon 4. The sphincter of Oddi guards c. Pancreatic duct a. Hepatopancreatic duct b. Common bile duct d. Cystic duct 5. In small intestine, active absorption occurs in case of b. Amino acids c. Na+ d. All the above a. Glucose 6. Which one is incorrectly matched? a. Pepsin – stomach b. Renin – liver c. Trypsin – intestine d. Ptyalin – mouth 7. Absorption of glycerol, fatty acids and monoglycerides takes place by a. Lymph vessels within villi b. Walls of stomach d. Capillaries within villi c. Colon 8. First step in digestion of fat is a. Emulsification b. Enzyme action c. Absorption by lacteals d. Storage in adipose tissue 9. Enterokinase takes part in the conversion of a. Pepsinogen into pepsin b. Trypsinogen into trypsin d. Caseinogen into casein c. Protein into polypetide 10. Which of the following combinations are not matched? b. Thiamine - Beriberi a. Vitamin D - Rickets c. Vitamin K - Sterility 7 (D) d. Niacin - Pellagra 11. Which of the following combinations are not matched? Column I Column II a. Bilirubin and biliverdin (i) intestinal biliverdin juice b. Hydrolysis of starch (ii) Amylases c. Digestion of fat (iii) Lipases d. Salivary gland (iv) Parotid 12. Match column I with column II and choose the correct option Column – I Column – II (P) Small intestine (i) Largest factory (ii) Absorpstion of glucose (Q) Pancreas (iii) Carrying electrolytic solution (R) Liver (S) Colon (iv) Digestion and absorption a. ( P-iv ) ( Q -iii ) ( R- i ) ( S – ii ) b. (P-iii) (Q-ii) (R-i) (S-iv) c. (P-iv)(Q-iii)(R-i)(S-ii)d. (P-ii) (Q-iv) (R-iii) (S-i) 13. Match column I with column II and choose the correct option Column – I Column – II (P) Small intestine (i) 23 cm (Q) Large intestine (ii) 4 meter (R) Oesophagus (iii) 12.5 cm (S) Pharynx (iv) 1.5 metera. a.(P-iv)(Q-ii)( $\overrightarrow{R-i}$ )( $\overrightarrow{S-iii}$ )b. ( $\overrightarrow{P-ii}$ )(Q-iv)(R-i)(S-iii)c. (P-i)(Q-iii)(R-ii)(S-iv)d. (P-iii)(Q-i)(R-ii)(S-iv) 14. Match column I with column II and choose the correct option

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|---|--|--|--|--|--|--|
| Column – I  | Column – II  |  |  |  |  |  |
| (P)Lipase   | (i) Starch   |  |  |  |  |  |
| (Q) Pepsin  | (ii) Cassein   |  |  |  |  |  |
| (R) Renin   | (iii) Protein  |  |  |  |  |  |
| (S) Ptyalin   | (iv) Lipid   |  |  |  |  |  |
| a. (P-iv)(Q-ii)(R-i)(S-   | iii) b. $(P-iii)(Q-iv)(R-ii)(S-i)$                             |  |  |  |  |  |
| c. (P-iv) (Q-iii) (R-ii) (S-  | -i) d. (P-iii) (Q-ii) (R-iv) (S-i)                             |  |  |  |  |  |
| 15. Which of the following is r   | not the function of liver?                                     |  |  |  |  |  |
| a. Production of insulin  | b. Detoxifi cation   |  |  |  |  |  |
| c. Storage of glycogen  | d. Production of bile  |  |  |  |  |  |
| 16. Assertion : (A) Large intes   | tine also shows the presence of villi like small intestine.    |  |  |  |  |  |
| Reason: (B) Absorption of wate  | er takes place in large intestine.                             |  |  |  |  |  |
| a. Both A and B are true and B  | is the correct explanation of A                                |  |  |  |  |  |
| b. Both A and B are true but B  | is not the correct explanation of A                            |  |  |  |  |  |
| c. A is true but B is false   |  |  |  |  |  |  |
| d. A is false but B is true   | 1' ' ' ' ' ' ' ' '''''   |  |  |  |  |  |
| 1 /. Which of the following is r  | tot true regarding intestinal villi?                           |  |  |  |  |  |
| a. They possess microvilli.   | b. They increase the surface area.                             |  |  |  |  |  |
| c. In ey are supplied with capil  | c. They are supplied with capillaries and the lacteal vessels. |  |  |  |  |  |
| d. They only participate in digestion of fats.  |  |  |  |  |  |  |
| <ul> <li>18. why are villi present in the intestine and not in the stomach?</li> <li>10. Dile inice contains no dispetitive and most it is important for dispetitive Whee?</li> </ul> |  |  |  |  |  |  |
| 19. Bile juice contains no digestive enzymes, yet it is important for digestion. Why?   |  |  |  |  |  |  |
| small intestine   | that starten molecule undergoes from the time it reaches the   |  |  |  |  |  |
| 21 How do proteins differ fro   | m fate in their energy value and their role in the body?       |  |  |  |  |  |
| 22 Digestive secretions are sec   | creted only when needed. Discuss                               |  |  |  |  |  |
| 23 Label the given diagram  | Sected only when needed. Discuss.                              |  |  |  |  |  |
|   |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
| A   |  |  |  |  |  |  |
| E   |  |  |  |  |  |  |
| в   |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
| D C   |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
| 24.   |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
| UNIT III  | Chapter 6 Respiration  |  |  |  |  |  |

| Evaluation                                   |                 |             |            |          |            |  |  |
|--|-----------------|-------------|------------|----------|------------|--|--|
| 1. Breathing is controlled by                |                 |             |            |          |            |  |  |
| a. cerebrum                                  | b. medulla oblo | ongata c. o | cerebellun | n d. p   | ons        |  |  |
| 2. Intercostal muscles are found between the |                 |             |            |          |            |  |  |
| a. vertebral colu                            | mn b. s         | sternum     | c. r       | ibs      | d. glottis |  |  |
| 3. The respiratory structures of insects are |                 |             |            |          |            |  |  |
| a. tracheal tubes                            | b. gills        | c. green gl | lands      | d. lungs |            |  |  |
|  |                 |             |            |          |            |  |  |

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4. Asthma is caused due to a. bleeding in pleural cavity. b. infection of nose c. damage of diaphragm. d. infection of lungs 5. The Oxygen Dissociation Curve is a. sigmoid b. straight line c. curved d. rectangular hyperbola 6. The Tidal Volume of a normal person is a. 800 mL b. 1200 mL c. 500 mL d. 1100 - 1200 mL7. During inspiration, the diaphragm a. expands. b. unchanged b. c. relaxes to become domed-shaped. d. contracts and flattens 8. CO2 is transported through blood to lungs as b. oxyhaemoglobin a. carbonic acid c. carbamino haemoglobin d. carboxy haemoglobin 9. When 1500 mL air is in the lungs, it is called a. vital capacity b. tidal volume c. residual volume d. inspiratory reserve volume 10. Vital capacity is b. TV + ERVa. TV + IRVc. RV + ERVd. TV + TRV + ERV11. After a long deep breath, we do not respire for some seconds due to a. more CO2 in the blood b. more O2 in the blood c. less CO2 in the blood d. less O2 in the blood 12. Which of the following substances in tobacco smoke damage the gas exchange system? , b. carbon monoxide and nicotine a. carbon monoxide and carcinogens c. carcinogens and tar d-nicotine and tar d-nicotine and tar 13. Column I represents diseases and column II represents their symptoms. Choose the correctly paired option Column I Column II (i) Recurring of bronchitis (P) Asthma (ii) Accumulation of W.B.CS in alveolus (Q) Emphysema (R) Pneumonia (iii) Allergy a. P = iii, Q = ii, R = ib. P = iii, Q = i, R = iic. P = ii, Q = iii, R = id. P = ii, Q = i, R = iii14. Which of the following best describes the process of gas exchange in the lungs? a. Air moves in and out of the alveoli during breathing. b. Carbon dioxide diffuses from deoxygenated blood in capillaries into the alveolar air. c. Oxygen and carbon dioxide diffuse down their concentration gradients between blood and alveolar air. d. Oxygen diffuses from alveolar air into deoxygenated blood. 15. Make the correct pairs. Columan–I Column-II (P) IC i. maximum volume of air breathe in after forced. ii. Volume of air present after expiration in lungs. (Q) EC(R) VC iii. Volume of air inhaled after expiration. (S) FRC iv. Volume of air exhaled after inspiration. (a) P - i, Q - ii, R - iii, S - iv(b) P - ii, Q - iii, R - iv, S - I(c) P - ii, Q - iii, R - i, S - iv(d) P - iii, Q - iv, R - i, S - ii16. Make the correct pairs.

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|--|---|--|--|--|--|--|
| Columan–I  | Column–II   |  |  |  |  |  |
| (P) Tidal volume   | i. 1000 to 1100 ml  |  |  |  |  |  |
| (Q) Residual volume  | ii. 500 ml  |  |  |  |  |  |
| (R) Expiratory reserve volume  | iii. 2500 to 3000 ml  |  |  |  |  |  |
| (S) Inspiratory reserve volume   | iv. 1100 to 1200 ml   |  |  |  |  |  |
| (a) $P - ii$ , $Q - iv$ , $R - i$ , $S - iii$  | (b) $P - iii$ , $Q - ii$ , $R - iv$ , $S - i$                         |  |  |  |  |  |
| (c) $P - ii$ , $Q - iv$ , $R - iii$ , $S - I$  | (d) $P - iii$ , $Q - iv$ , $R - i$ , $S - ii$                         |  |  |  |  |  |
| 17. Name the respiratory organs of flat  | worm, earthworm, fish, prawn, cockroach and cat.                      |  |  |  |  |  |
| 18. Name the enzyme that catalyses the   | 18. Name the enzyme that catalyses the bicarbonate formation in RBCs. |  |  |  |  |  |
| 19. Air moving from the nose to the trac   | chea passes through a number of structures. List in                   |  |  |  |  |  |
| order of the structures.   |   |  |  |  |  |  |
| 20. Which structure seals the larynx wh  | en we swallow?  |  |  |  |  |  |
| 21. Resistance in the airways is typicall  | y low. Why? Give two reasons.   |  |  |  |  |  |
| 22. How the body makes long-term adj   | ustments when living in high altitude.                                |  |  |  |  |  |
| 23. Diffusion of gases occurs in the alve  | eolar region only and not in any other part of the                    |  |  |  |  |  |
| respiratory system. Discuss.   |   |  |  |  |  |  |
| 24. Sketch a flow chart to show the path   | n way of air flow during respiration                                  |  |  |  |  |  |
| 25. Why is pneumonia considered a dar  | ngerous disease?  |  |  |  |  |  |
| 26. Explain the conditions which create  | s problems in oxygen transport  |  |  |  |  |  |
|  |   |  |  |  |  |  |
| UNIT III Chapter '   | 7 Body Fluids and Circulation   |  |  |  |  |  |
| Evaluation   |   |  |  |  |  |  |
| 1. What is the function of lymph?  |   |  |  |  |  |  |
| a. Transport of O2 into brain b.   | a. Transport of O2 into brain b. Transport of CO2 into lungs          |  |  |  |  |  |
| c. Bring interstitial fluid in blood   | Bring RBC and WBC in lymph node                                       |  |  |  |  |  |
| 2. Which one of the following plasma proteins is involved in the coagulation of blood? |   |  |  |  |  |  |
| a. Globulin b. Fibrinogen c.   | Albumin d. Serum amylase  |  |  |  |  |  |
| 3. Which of the following WBCs are fo  | 3. Which of the following WBCs are found in more numbers?             |  |  |  |  |  |
| a. Eosinophil b. Neutrophil  | c. Basophil d. Monocyte   |  |  |  |  |  |
| 4. Which of the following is not involv  | ed in blood clotting?   |  |  |  |  |  |
| a. Fibrin b. Calcium c. Plat   | elets d. Bilirubin  |  |  |  |  |  |
| 5. Lymph is colourless because   |   |  |  |  |  |  |
| a. WBC are absent b. WBC are   | present   |  |  |  |  |  |
| c. Heamoglobin is absent d. RBC are absent   |   |  |  |  |  |  |
| 6. Blood group is due to the presence o  | r absence of surface  |  |  |  |  |  |
| a. Antigens on the surface of WBC  | b. Antibodies on the surface of RBC                                   |  |  |  |  |  |
| c. Antigens of the surface of RBC  | d. Antibodies on the surface of WBC                                   |  |  |  |  |  |
| 7. A person having both antigen A and  | antigen B on the surface of RBCs belongs to blood                     |  |  |  |  |  |
| group  | 1.0   |  |  |  |  |  |
| a. A b. B c. AB  |   |  |  |  |  |  |
| o. Erythrobiastosis foetalis is due to the   | e destruction of  |  |  |  |  |  |
| a. Foetal WDCa   | tus suffers from misurests  |  |  |  |  |  |
| 0. Dub sound of heart is sourced by  | ius suffers from maanmata   |  |  |  |  |  |
| 7. Duo sound of neart is caused by   | h Opening of comi lynes velves  |  |  |  |  |  |
| a. Closure of arrio-ventricular valves   | d. Opening of strip ventricular values                                |  |  |  |  |  |
| c. Closure of semi-funar values  | a. Opening of auto-ventricular valves.                                |  |  |  |  |  |
| I<br>I   |   |  |  |  |  |  |

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10. Why is the velocity of blood flow the lowest in the capillaries? a. The systemic capillaries are supplied by the left ventricle, which has a lower cardiac output than the right ventricle. b. Capillaries are far from the heart, and blood flow slows as distance from the heart increases. c. The total surface area of the capillaries is larger than the total surface area of the arterioles d. The capillary walls are not thin enough to allow oxygen to exchange with the cells. e. The diastolic blood pressure is too low to deliver blood to the capillaries at a high flow rate. 11. An unconscious patient is rushed into the emergency room and needs a fast blood transfusion. Because there is no time to check her medical history or determine her blood type, which type of blood should you as her doctor, give her? a. A<sup>-</sup> b. AB c. O<sup>+</sup> d. O<sup>-</sup> 12. Which of these functions could or could not be carried out by a red blood cell? Briefly justify your answer. a. Protein synthesis b. Cell division c. Lipid synthesis d. Active transport 13. At the venous end of the capillary bed, the osmotic pressure is a. Greater than the hydrostatic pressure b. Result in net outflow of fluids d. No change occurs. c. Results in net absorption of fluids 14. A patient's chart reveals that he has a cardiac output of 7500mL per minute and a stroke volume of 50 mL. What is his pulse rate (in beats / min) a. 50 b. 100 c. 150 d. 400 15. At any given time there is more blood in the venous system than that of the arterial system. Which of the following features of the veins allows this? a. relative lack of smooth muscles b. presence of valves c. proximity of the veins to lymphatic's d. thin endothelial lining 16. Distinguish between arteries and veins 17. Distinguish between open and closed circulation 18. Distinguish between mitral valve and semi lunar valve 19. Right ventricular wall is thinner than the left ventricular wall. Why? 20. What might be the effect on a person whose diet has less iron content? 21. Describe the mechanism by which the human heart beat is initiated and controlled. 22. What is lymph? Write its function. 23. What are the heart sounds? When and how are these sounds produced? 24. Select the correct biological term. Lymphocytes, red cells, leucocytes, plasma, erythrocytes, white cells, haemoglobin, phagocyte, platelets, blood clot. a. Disc shaped cells which are concave on both sides b. Most of these have a large, bilobed nucleus c. Enable red cells to transport blood d. The liquid part of the blood e. Most of them move and change shape like an amoeba. f. Consists of water and important dissolved substances. g. Destroyed in the liver and spleen after circulating in the blood for four months. h. The substances which gives red cells their colour. i. Another name for red blood cells. j. Blood that has been changed to a jelly k. A word that means cell eater.

1. Cells without nucleus.

m. White cells made in the lymphatic tissue.

n. Blocks wound and prevent excessive bleeding.

o. Fragment of cells which are made in the bone marrow.

p. Another name for white blood cells.

- q. Slowly releases oxygen to blood cells.
- r. Their function is to help blood clot in wounds.

25. Select the correct biological term. Cardiac muscle, atria, tricuspid systole, auricles, arteries, diastole, ventricles, bicuspid valve, pulmonary artery, cardiac cycle, semi lunar valve, veins, pulmonary vein, capillaries, vena cava, aorta.

- a. The main artery of the blood.
- b. Valves between the left atrium and ventricle.
- c. Technical name for relaxation of the heart.
- d. Another name for atria.

e. The main vein.

- f. Vessels which carry blood away from the heart.
- g. Two names for the upper chambers of the heart.
- h. Thick walled chambers of the heart.
- i. Carries blood from the heart to the lungs.
- j. Takes about 0.8 sec to complete.
- k. Valves situated at the point where blood flows out of the heart.
- l. Vessels which carry blood towards the heart.
- m. Carries blood from the lungs to the heart.
- n. The two lower chambers of the heart.
- o. Prevent blood from re entering the ventricles after entering the aorta.
- p. Technical name for one heart beat.
- q. Valves between right atrium and ventricles.
- r. Technical name for contraction of the heart.
- s. Very narrow blood vessels.

26.Name and Label the given diagrams to show A, B, C, D, E, F, and G

