



BIOLOGY

BOOKS - MAXIMUM PUBLICATION

DIGESTION AND ABSORPTION

Exercise

1. Hepato-pancreatic duct opens into the duodenum and carries

A. Bile

B. Pancreatic juice

C. Both bile and pancreatic juice

D. Saliva

Answer: C



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2. One of the following is not a common disorder associated with digestive system

A. Tetanus

B. Diarrhoea

C. Jaundice

D. Dysentery

Answer: A



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3. A gland not associated with the alimentary canal is

A. Pancreas

B. Adrenal

C. Liver

D. Salivary gland

Answer: B



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4. Liver is the largest gland and is associated with various functions, choose one which is not correct

A. Metabolism of carbohydrate

B. Digestion of fat

C. Formation of bile

D. Secretion of hormone called gastric

Answer: D



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5. Mark the right statement among the following

A. Trypsinogen is an inactive enzyme

B. Trypsinogen is secreted by intestinal
mucosa

C. Enterokinase is secreted by pancreas

D. Bile contains trypsin

Answer: A



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6. The major health and nutritional problems mainly arises due to low amount of minerals and vitamins in diet Name the two PEMs.



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7. Deficiency symptoms of a disease are given below: Identify it. Thin Limbs retarded growth of

body and brain, Swelling of legs due to retention of water (oedema), reddish hair pot belly and diarrhea.



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8. Find the set most suitable with "succus entericus"

A. bilirubin and biliverdin

B. salivary amylase and lysozymes

C. disaccharides, dipeptidases and lipases

D. Trypsinogen,

chymotrypsinogen

procarboxypeptidases

Answer: C



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9. Complete the columns a, b, c, d, e&f : (a)

Maltose.....a.....+.....b..... (b)

Sucrose.....c.....+.....d.....

(c)Lactose.....e.....+.....f.....



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10. From this which statement is correct ?

A. Human denititiation is heterodont

B. Fat is soluble in water

C. Fructose absorbed passively

D. Small intestine devoid of villi

Answer: A



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11. The human intestine is long because

- A. Bacteria in food can be killed gradually
- B. It increases surface area for absorption of food
- C. It provides more space for food storage
- D. None of these

Answer: B



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12. Which of the following statement is most suitable for gastrin?

- A. It stimulates the secretion of gastric juice.
- B. It stimulates the secretion of bile.
- C. It inhibits gastric gland to produce gastric secretion.
- D.

Answer: A



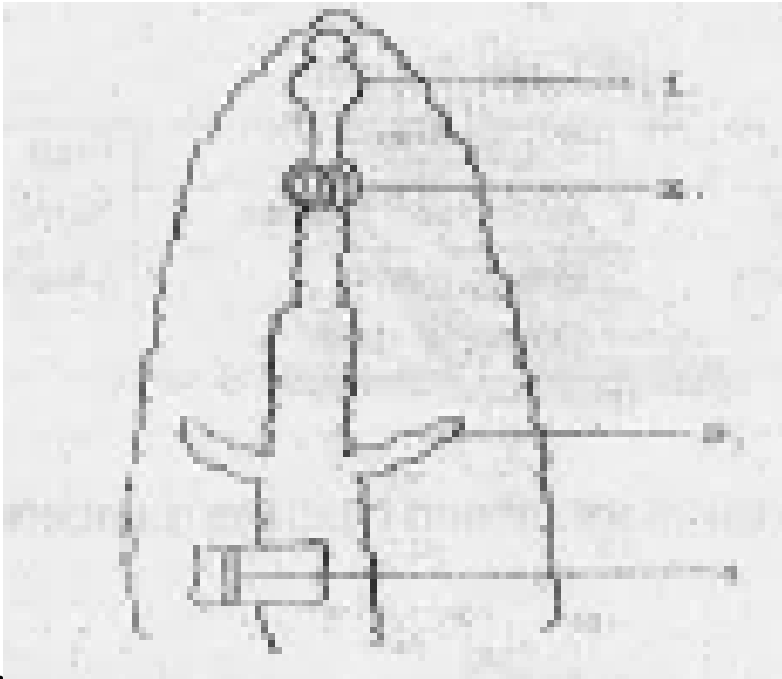
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13. Name the end product of digestion of following ? : 1) Starch, 2) Protein



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14. Copy the diagram and label the numbered



parts.



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15. A 15 year old boy was admitted in a hospital with severe case of stomach ulcer at the end of various tests it is found that Mucus glands are absent. Do you agree with this ? Justify your answer



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16. Distinguish between Renin and Rennin.



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17. Complete the passage. Fatty acids and glycerol are first incorporated into small droplets called which move into intestinal mucosa. They are reformed into very small..... coated fat globules called.....which are transported to the..... in the villi.



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18. Give reason for the following. It is not necessary to produce amylase in an inactive form in our body, but it is not in the case of Trypsin.



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19. Give reason for the following. In certain circumstances, peptic ulcer are found on the gut wall.



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20. Construct a flow chart showing the passage of food through the alimentary canal of man.



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21. Differentiate between Serosa and Lumen.



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22. Find the odd one out and justify your answer.

Salivary gland, milk gland, gastric gland, thyroid gland



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23. Give below in bracket are the names of some digestive enzymes group them into A - Gastric, B -

Pancreatic and C- Intestinal (Trypsin, Dipeptidase, Rennin, Maltase, Pepsin, Chymotrypsin, Nuclease, Amylase)



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24. Ramu ate boiled rice, what are the changes that it undergoes before being absorbed in the small intestine



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25. The dental formula of human is represented as $i\left(\frac{2}{3}\right), c\left(\frac{1}{1}\right), \pm\left(\frac{2}{2}\right), m\left(\frac{3}{3}\right)$ What do i, c, pm, m indicate?



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26. Describe the Diphyodont and Thecodont characteristics of human dentition.



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27. Given below are the layers of human gut. Write a flow chart from inner region. Serosa, mucosa, muscularis, submucosa



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28. After observing the model of the lumen of human intestine your friend said that "the villi projected into the lumen actually block the movement of food through the intestine, if the villi are absent food can easily pass through the intestine." How will you respond to this comment?



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29. Out of the following list, pick out the enzymes that take part in carbohydrate digestion. Maltase, Lactase, Sucrase, Peptidase Salivary amylase, Isomaltase.



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30. Strong acidic food in the stomach stimulate the secretion of secretin from duodenal wall. On which part of the digestive tract, secretion act?



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31. Strong acidic food in the stomach stimulate the secretion of secretin from duodenal wall. What is the role of secreting in digestion?

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32. Fatty chyme in duodenum decreases the speed of peristalsis. How does fatty chyme affect the speed of peristalsis?

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33. Mention whether the following statements true or false. Justify your answer: a) Chymotrypsin is a fat digesting enzyme. b) Deglutition occurs in the intestine, c) Intestinal juice is also known as succus entericus, d) Function of enterokinase is to break peptide bond in proteins.



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34. The calorific value of respiratory substrates are different. Do you agree ? Give reasons.



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35. Gastric glands are formed of three types of secretory cells. Name them and mention their function.



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36. Write the two function of liver



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37. Find the odd one out from each group and justify
a) Cardiac. Villi, Fundic, Pyloric (b)
Duodenum Jejunum, ileum, villi, (c) Parotid,
gastric, sublingual, submaxillary



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38. Even though concentrated HCl is stored in the stomach, it will not generally damage the stomach wall. Why ?



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39. Complete the equation by filling $(a_1, b_1, \text{ and } c_1,)$.

$$[Lac \rightarrow se \xrightarrow{a_1} Glu \cos e + \underline{x}(b_1)] \quad ,$$

$$[Ma < ose \xrightarrow{Ma < ose} Glu \cos e + \underline{x}(c_1)]$$



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40. Trypsinogen is activated to trypsin by enterokinase. How chymotrypsinogen is activated to chymotrypsin?



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41. The end products of fat digestion are not absorbed directly into the bloodstream'. Justify.



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42. Is it possible to compare the water vascular system of phylum Echinodermata to circulatory system of man in some aspects? Justify your answer.



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43. Read the features of cell layers in the wall of human intestine. * It consists of circular and longitudinal smooth muscles. *Outer thin layer formed of mesothelium. *A layer formed of loose connective tissue and nerves. *Epithelium with goblet cells to secrete mucus. Identify the cell layers and arrange them from inside to outside as seen in the section of intestine.



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44. Sketch an outline (or a flow chart) of protein digestion taking place in your alimentary canal.



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45. Identify the odd one and write the common features of the other items.(Caecum, Colon, Rectum, Renin)



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46. Pro-enzyme pepsinogen is a protein digesting enzyme (inactive form) of the human digestive system. Name the digestive gland which secretes this enzyme,



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47. Pro-enzyme pepsinogen is a protein digesting enzyme (inactive form) of the human digestive system. How does pepsinogen change into its active form, pepsin?



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48. Pro-enzyme pepsinogen is a protein digesting enzyme (inactive form) of the human digestive system. Complete the following sentence: Pepsin converts proteins into proteoses and.....



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49. Name any two secretions of exocrine glands.



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50. Construct a flow chart to demonstrate the digestion of proteins in different parts of human alimentary canal. (Hint: Any three steps only)



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51. From the following list, pick out the enzyme, that takes part in carbohydrate digestion.(Salivary amylase, peptidase, lipase,carboxypeptidase)



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52. In human beings definition is 'heterodont'.


This condition means.....

- A. Presence of two types of teeth
- B. Presence of two sets of teeth
- C. Presence of different types of teeth
- D. Teeth are placed in sockets of jaw.

Answer: C



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53.  Dental formula of permanent teeth in man is..... (i) 2122/2122,(ii)2123/2123,(iii)2102/2102, (iv)2122/2022



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54. Choose the correct answer among the following:
(a) Gastric juice contains: i) pepsin, lipase and rennin, (ii) trypsin, lipase and rennin, (iii)trypsin, pepsin and lipase,(iv) trypsin, pepsin and rennin



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55. Succus entericus is the name given to (i)a junction between ileum and large intestine (ii) intestinal juice, (iii) swelling in the gut, (iv) appendix



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56. Why are villi present in the intestine and not in the stomach?



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57. State the role pancreatic juice in digestion of proteins.



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58. Describe the process of digestion of protein in stomach



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59. Give the dental formula of human beings.



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60. Bile juice contains no digestive enzymes, yet it is important for digestion. Why?



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61. Describe the digestive role of chymotrypsin. Which two other digestive enzymes of the same category are secreted by its source gland?



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62. Discuss the main steps in the digestion of proteins as the food passes through different parts of the alimentary canal.



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63. Explain the term thecodont and diphyodont.



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64. Name different types of teeth and their number in an adult human.



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65. In intestine, food materials are absorbed through

- A. villi
- B. subtentacular cells
- C. sub-mucosa
- D. gastric glands

Answer: A



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66. Diastema refers to

- A. gap between the teeth
- B. gap between tongue and teeth
- C. ciliary cells on alimentary wall
- D. cell lining along pharynx

Answer: A



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67. Pylorus is present between

- A. small and large intestine
- B. pancreas and small intestine
- C. oesophagus and stomach
- D. stomach and duodenum

Answer: D



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68. Elephant tusks are

A. molars

B. canines

C. incisors

D. premolars

Answer: C



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69. Which of the following cells produce HCl

A. beta-cells

B. alpha-cells

C. Oxyntic cells

D. Chief cells

Answer: C



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70. Most abundant mineral of animal body is

A. iron

B. sodium

C. potassium

D. calcium

Answer: D



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71. Bile salts act as activator of which enzyme?

A. Pepsinogen

B. Trypsinogen

C. Lipase

D. Pancreatic amylase

Answer: C



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72. When breast feeding is replaced by less nutritive food low in proteins and calories the infants below the age of one year are likely to suffer from

A. marasmus

B. rickets

C. kwashiorkor

D. pellagra

Answer: A



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73. Which one of the following pairs of food components in humans reaches the stomach totally undigested?

A. protein and starch

B. Starch and fat

C. fat and cellulose

D. Starch and cellulose

Answer: C



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74. A young infant may be feeding entirely on mother's milk, which is white in colour but the stools, which the infant passes out is quite yellowish. This yellow colour is due to

A. intestinal juice

B. bile pigments passed through bile juice

C. undigested milk protein casein

D. pancreatic juice poured into duodenum

Answer: B



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75. Which one of the following statements is true regarding digestion and absorption of food in humans?

A. Oxyntic cells in our stomach secrete the proenzyme pepsinogen

B. Fructose and amino acids are absorbed through the intestinal mucosa with the help of carrier ions like Na^+

C. Chylomicrons are small lipoprotein particles that are transported from intestine into blood capillaries

D. About 60% of starch is hydrolysed by salivary amylase in our mouth

Answer: C



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76. Secretin and cholecystokinin are digestive hormones. They are secreted in

A. oesophagus

B. ileum

C. pancreas

D. duodenum

Answer: D



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77. FAD is a coenzyme derived from

- A. riboflavin
- B. vitamin-B12
- C. thiamine
- D. niacin

Answer: B



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78. The pH of the digestive juices within the human small intestine is between 7.5 and 8.5. This environment is slightly

A. basic

B. acidic

C. neutral

D. None of these

Answer: A



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79. Lipids, which can be found in oil based salad dressings and ice cream, during digestion are splitted into

- A. fatty acids and glycerol
- B. glycerol and amino acids
- C. glucose and fatty acids
- D. glucose and amino acids

Answer: A



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80. Crypts of Leiberkuhn are involved in

A. secretion of succus entericus

B. secretion of rennin

C. secretion of ptyalin

D. digestion of food

Answer: A



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81. Which of the following is an organic molecule needed by the body in small amounts ?

A. Protein

B. Zinc

C. Vitamin-C

D. Monosaccharide

Answer: C



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82. Which one is not true about vitamins?

- A. Vitamins are organic catalysts
- B. Vitamins are indispensable for life
- C. Vitamins act as a source of energy
- D. Tocopherol is anti-sterility vitamin

Answer: C



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83. The malnutrition disease in man is

- A. Cri du chat syndrome
- B. Klinefelter's syndrome
- C. Potbelly syndrome
- D. Edward's syndrome

Answer: C



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84. The process of resynthesis of food materials from simpler food molecules is called

- A. biosynthesis

B. catabolism

C. absorption

D. assimilation

Answer: A



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