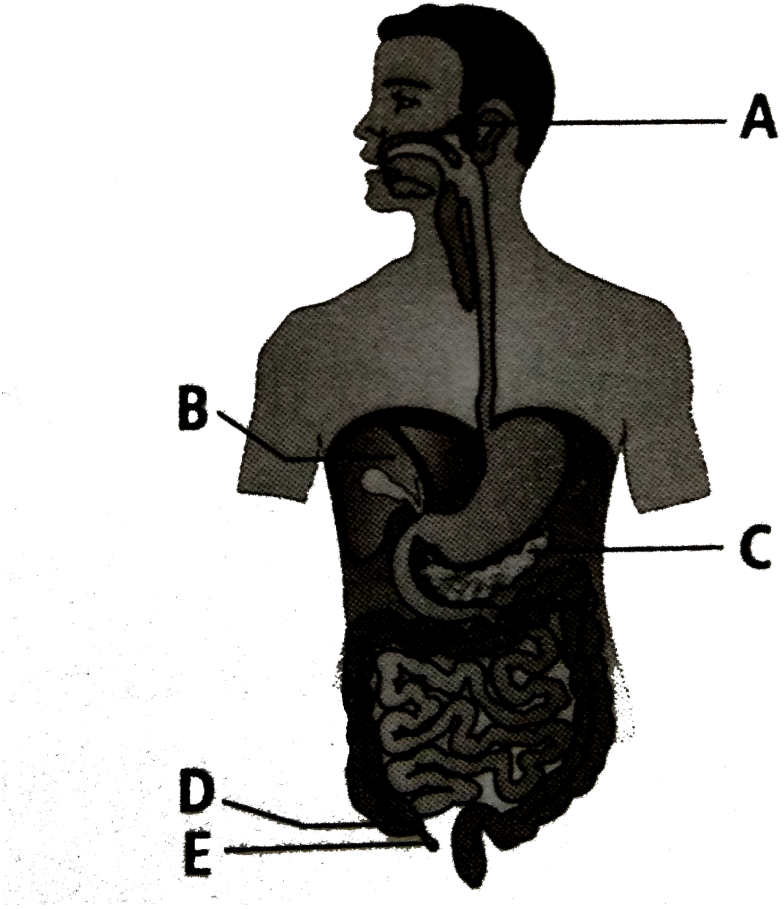
BIOLOGY

BOOKS - MTG BIOLOGY (HINGLISH)

DIGESTION AND ABSORPTION

Digestion And Absorption

1. The given figure represents the human digestive system. Identify A,B,C D and E.



A. A-Parotid gland, B-Lvier, C-Pancreas, D-Caecu, E-Vermiform appendix

B. A-Parotid gland, B-Pancereas, C-Liver, D-Aecum, E-Vermiform appendix

C. A-Parotid gland, B-Caecum, C-Pancreas, D-Liver, E-Vermiform appendix

D. A-Parotid galnd, B-Liver. C-Caecu, D-Pancreas,E=Vermiform appendix

Answer: A

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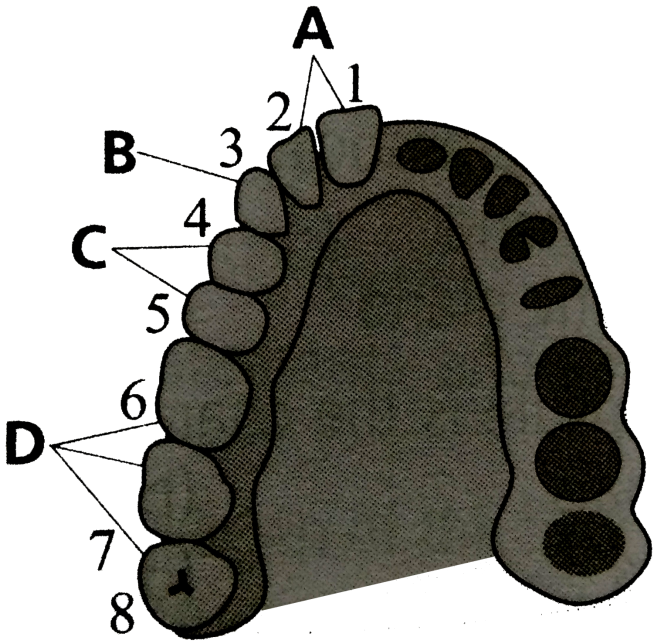
2. The given figure shown the arrangement of different types of teeth in the jaw on one side. Identify A,B,C and D.



A. A Inclisors B Canine C Premolars D Molars

B. A Molars B Premolar C Canines D Incisors

C. A Premolasrs B Molar C Incisors D Canines

D.

A	B	C	D
Incisors	Canine	Molars	Premolars

Answer: A

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3. Which of the following correctly depicts the dental formula of a child?

A. $\frac{2112}{2112}$

B. $\frac{2102}{2102}$

C. $\frac{2123}{2123}$

D. $\frac{2111}{2111}$

Answer: B

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4. Read the following statements and select the correct option.

Statement 1: Dental formula gives the number of teeth in the half of each jaw.

Statement 2: Dental formula can be xpressed for insectivorous mammals as well as for the nonmammalian vertebrates.

A. Both statements 1 and 2 are correct

B. Statement 1 is correct but statement 2 is incorrect Statement 1 is incorrect but statement 2 is correct.

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: B

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5. In man even though both air and food go through the pharynx, food does not normally neter the wind pipe because during swallowing of food

A. theepiglottis covers the glottis

B. sphincter of Oddi closes the hepato-pancreatic duct

C. phyloric sphincter convers the opening of stomach into the duodenum

D. none of these

Answer: A

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6. Two friends are eating together on a dinning table. One of them suddenly starts coughing while swallowing some food. This coughing would have been due to improper movement of

A. epiglottis

B. diaphragm

C. neck

D. tongue.

Answer: A

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7. Read the following statements and select the correct option.

Statement 1: The worm-like structure attached to the caecum at the beginning of the large intestine is known as vermiform appendix.

Statement 2 : Vermiform appendix has no apparent digestive function.

A. Both statements 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect.

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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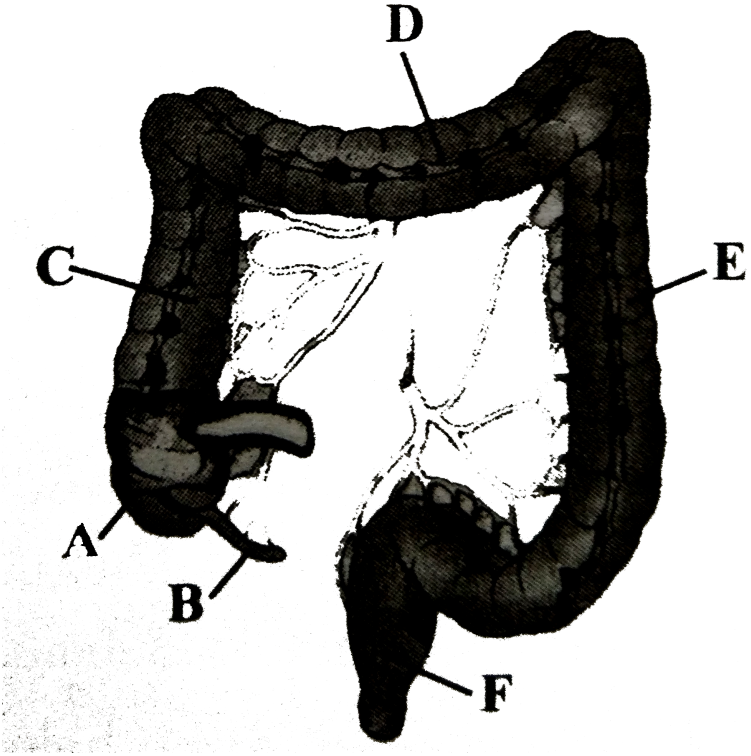
8. The diagram of large intestine of man is given here. Identify the parts labelled as A,B,C,D,E and F



A. A-Caecum, B-Vermiform appendix,

B. Ascending colon

C. Transverse colon,

D. Descending colon, F-Sigmoid colon

Answer: A

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9. Mathc the column I with column II and select the correct option from the given codes.

Column I	Column II
Sphincter ani	(i)Opening of hepatopancreatic ampulla into duoden
Cardiac sphincter	(ii)Between duodenum and posterior stomach
Spincter of Oddi	(iii)Between duodenum
Lleocaecal sphincter	(iv)Between oesophagus and anterior stomach
Pyloric sphincter	(v)Between small intestine and large intestine

A. iii,ii,iv,i,v

B. ii,v,i,iv,iii

C. iii,iv,i,v,ii

D. iv,iii,i,ii,v

Answer: C

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10. The lining of intestinal wall from outside to inside is made up of

A. circular muscles $\rightarrow longitud \in al\mu sc \leq s$rarr$\mu \cos a$ rarr`submucosa

B. longitudinal muscles $\rightarrow$ circular muscles $\rightarrow$ submucosa $\rightarrow$ mucosa

C. mucosa $\rightarrow$ submucosa $\rightarrow$ circular muscles $\rightarrow$ longitudinal muslces

D. submucosa $\rightarrow$ longitudinal muscles $\rightarrow$ circular muscles $\rightarrow$ mucosa.

Answer: B

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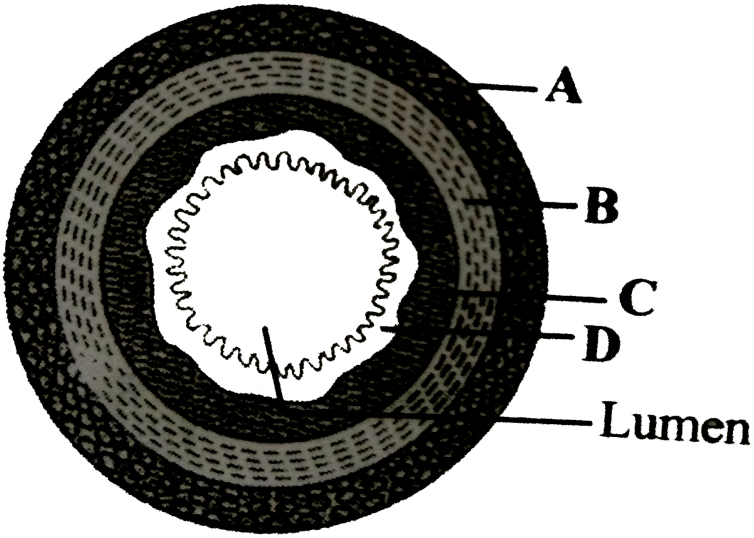
11. The given diagram represetn the T.S. of gut. Identify A,B,C and D.



A. A Serosa B Muscularis C Submucosa D Mucosa

B. A Muscularis B Serosa C Submucosa D Mucosa

C. A Serosa B Muscularis C Mucosa D Submucosa

D. A Serosa B Submucos C Muscularis D Mucosa

Answer: A

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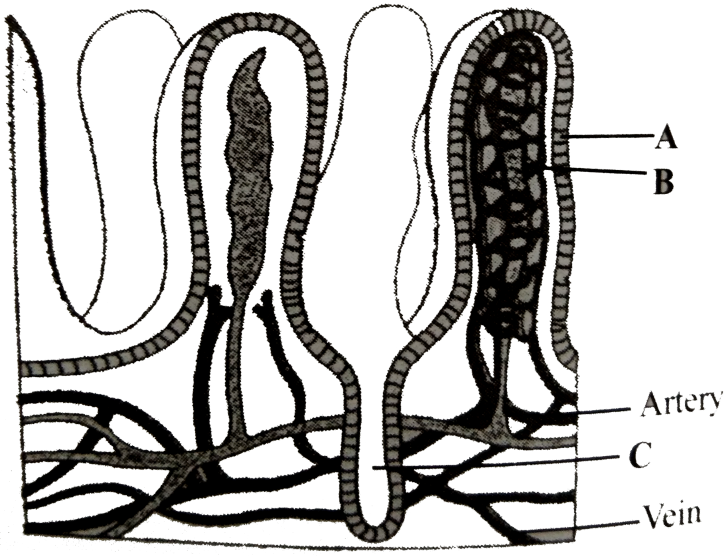
12. The diagram given below represents a section of small intestinal mucosa. Identify A,B and C



A. A-Villi,B-Lacteal, C-Capillaries

B. A-Lacteal,B-Villi,C-Capillaries

C. A-Villi,B-Lacteal,C-Crypts

D. A-Crypts,B-Lacteal,C-Capillaries

Answer: C

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13. Crypts of Lieberkuhn are present in

A. pancreas and secrete pancreatic juice

B. small intestine and secrete digestive enzymes

C. stomach and secrete dilute HCl

D. stomach and secrete trypsin.

Answer: B

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14. Which of the following statements is incorrect?

A. Mucosal epithelium has goblet cells which secrete mucus for lubrication.

B. Mucosa forms gastric glands in the stomach and crypts in between the bases of villi in intestine.

C. Cells lining the villi has brush border or microvilli.

D. All the four basic layers in the wall of gut never show modifications in different parts of the alimentary canal.

Answer: D

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15. Which of the following is not a salivary gland?

A. Sublingual

B. Submaxillary

C. Lacrimal

D. Parotid

Answer: C

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16. Stenson's duct is associated with

A. parotid gland

B. cardiac gland

C. pancreatic gland

D. thyroid gland.

Answer: A

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17. Glisson's capsuls is the characteristic feature of

A. mammals

B. birds

C. reptiles

D. arthropods.

Answer: A

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18. Which of the following statements is incorrect?

A. Brunner's glands are submucosal.

B. Irregular folds of gastric mucosa rugae.

C. Glisson's capsule is the connective tissue sheath of hepatic lobule.

D. Mesothelium or serosa lies in close proximity to the circular layer of muscularis.

Answer: D

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19. In man, the gall bladder is situated in ___ lobe of liver.

A. left

B. right

C. caudate

D. quadrate

Answer: B

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20. The common bile duct in humna is formed by the joining of

A. pancreatic duct and bile duct

B. cystic duct and hepatic duct

C. cystic duct and pancreatic duct

D. hepatic duct and pancreatic duct.

Answer: B

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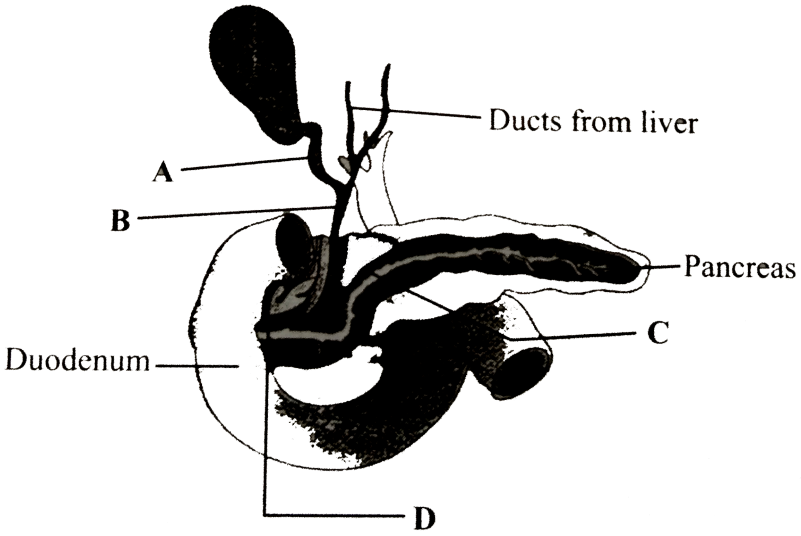
21. The given diagram shows a duct system of liver, gall bladder and pancrease. Write the names of ducts from A to D.



A. A-Cystic duct,B-Common bile duct, C-Pancreatic duct, D-Hepatopancreatic duct

B. A-Common bile duct, B-Cystic duct, C-Pancreatic duct,D-Hepatopancreatic duct

C. A-Cystic duct, B-Bile duct, C-Hepatopancreatic duct, D-Pancreatic duct

D. A-Cystic duct, B-Panecreatic duct, C-Common bile duct, D-Hepatopancreatic duct

Answer: A

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22. Mathc column I with column II and select the correct option from the given codes.

Column I	Column II
Hepatic lobule	(i)Glisson's capsule
Crypts of Leiberkuhn	(ii)Glisson's capsule
Sphincter of Oddi	(iii)Gall bladder
Cystic duct	(iv)Hepato-pancreatic duct

A. ii,i,iv,iii

B. i,ii,iv,iii

C. i,ii,iii,iv

D. iv,iii,ii,i

Answer: A

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23. Read the following statements and select the correct option.

Statement 1 : The glycogen of the liver is the principal source of blood sugar in case of emergency. Statement 2: Blood sugar leverl falls rapidly after hepatectomy.

A. Both statement 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: C

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24. Read the following statements and select the correct option.

Statement 1 : The second largest digestive gland in our body is pancreas.

Statement 2 : Pancreas functions both as an exocrine and endocrinegland.

A. Both statement 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect.

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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25. Which of the following statements is incorrect about pancreas?

A. It is compound gland as it has both exocrine and endocrine part.

B. Exocrine part secretes alkaline pancreatic juice having enzymes.

C. Endocrine part secretes hormones like insulin and glucagon.

D. It is surrounded by glisson's capsule.

Answer: D

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26. Match the column I with column II and selec the correct option ffrom the given codes.

Column I (Types of cells)	Column II(secretions)
Beta cells	(i)Lysozyme
Mast cells	(ii)Mucus
Paneth cells	(iii)Histamine
Acinar cells	(iv)Insulin
	(v)Pancreatic enzymes

A. iv,ii,i,v

B. v,ii,iii,iv

C. iv,iii,iv

D. ii,iii,i,v

Answer: C

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27. Which part of the mammalian alimentary canal does not secrete any enzyme?

A. Mouth

B. Oesophagus

C. Stomach and secrete dlute HCl

D. Duodenum

Answer: B

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28. Major utility of breaking up of food into small bits during chewing is

A. to reduce suface area of the food eaten up

B. to increase surface area of the food eaten up

C. to make the food soluble.

D. to enjoy taste of food

Answer: B

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29. A lubricant mucin, in salvia is made up of

A. polyunsaturated fats

B. actin and myosin

C. glycoproteins

D. phospholipids.

Answer: C

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30. A bolus is

A. a mass of crushed food moistened with saliva

B. the semisolid material resulting from partial digestion in the stomach

C. the milky emulsified fat absorbed from small intestine

D. indigestible materials that help in movement and absorption of food.

Answer: A

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31. If you chew on a piece of bread long enough, it will begin to tase sweet because

A. maltase is breaking down maltose

B. lipases are forming fatty acids

C. amylase is breaking down starches to disaccharides

D. disaccharides are forming glucose.

Answer: C

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32. Which of the following statements is incorrect regarding lysozyme present in saliva?

A. It acts as an antibacterial agent.

B. If prevents infections.

C. It acts as an enzyme.

D. All of these

Answer: C

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33. If we take food rich in lime juice, then

A. action of ptylain on strach is enhanced

B. action of ptyalin on starch is reduced

C. action of ptylain on starch is unaffected

D. action of ptyalin on starch stops.

Answer: B

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34. In which layer of stomach are gastric glands located?

A. Serosa

B. Mucosa

C. Submucosa

D. Muscularis mucosa

Answer: B

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35. Read the following statements and select the correct option.

Statement 1: Deglutition starts as a reflex and tehn continues by voluntary action.

Statement 2: Oesophagus has smooth muscles in the beginning and striated muscles in the rest of its wall.

A. Both statements 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect.

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: D

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36. Mathc column I with column II and select the correct option from the given codes.

`{:("Column I (Types of cell)","Column II(Secretions)"),("Peptic cells",(i)"Mucus"),("Oxyntic cells",(ii)"Alkaline fluid"),("Goblet cells",(iii)"Pro-enzymes"),(,(iv)"HCl"):}

A. ii,iii,i

B. iii,ii,i

C. i,ii,iii,iv

D. ii,i,iii

Answer: D

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37. Mathc column I with column II and select the correct option from the given codes.

Column I	Column II
Mucous neck cells	(i)HCl,intrinsic factor
Peptic//chief cells	(ii)Mucus
Pariental//Oxyntic cells	(iii)Perpsinogen

A. ii,iii,i

B. iii,ii,i

C. i,ii,iii,iv

D. ii,i,iii

Answer: A

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38. Which one of the following types of cells and their secretion is correctly mathced?

A. Oxyntic cells-a secretion with pH between 2.0 and 3.0

B. Alpha cells of lslets of Langerhans-secretion that decreases blood sugar level

C. Kupffer cells-a digestive enzyme that hydrolyses nucleic acids

D. none of these

Answer: A

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39. Mathc column I with column II and select the correct option from the given codes.

Column I	Column II
Van kupffer cells	Islets of langerhans
$\beta -$ cells	(ii)Liver sinusoids
Oxyntic cells	(iii)Thyroid gland
Crypts of lieberkuhn	(iv)Stomach
	(v)Small intestine

A. iv,v,i,ii

B. iii,i,iv,ii

C. iv,v,iii,i

D. ii,i,iv,v

Answer: D

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40. Mathc the column I with column II and selct the correct option from the given codes.

Column I	Column II
Goblet cells	Antibacterial Agent
Lysozyme	(ii)Mucus
Saliva	(iii)HCl
Oxyntic cells	(iv)Sublingual gland

A. iii,i,iv,ii

B. i,iii,iv,ii

C. ii,iii,i,iv

D. ii,i,iv,iii

Answer: D

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41. Which of the following statements is correct?

A. Goblet cells secrete pepsionogen.

B. Parietal cells secrete hydrochloric acid.

C. Argentaffin cells secrete mucus.

D. Chief cells secrete gastrin.

Answer: B

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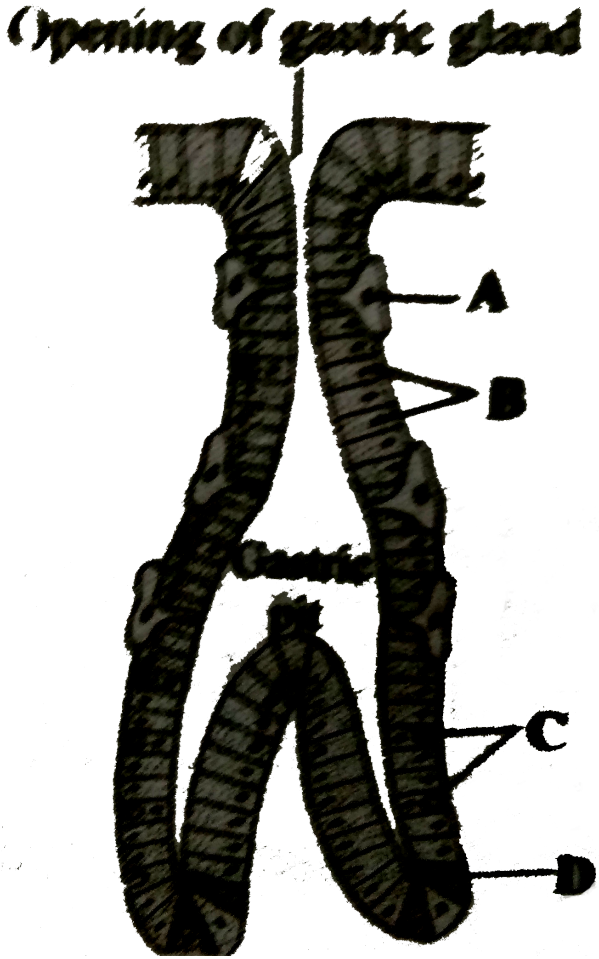
42. Examine the figure of gastric galnd given belwo and identify the labelled parts A to D.



A. A Oxyntic cell B Chief cell C Mucous cell D Argentaffin cell

B. A Argentaffin cell B Oxyntic cell C Mucous cell D Chief cell

C. A G cell B Chief cell C Mucous cell D Argentaffin cell

D. A Oxyntic cell B G cell C Mucous cell D Chief cell

Answer: A

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43. The food mixed thoroughly with the acidic gastric juice of the stomach by the churning movements of its muscular wall. What do we call the food then?

A. Bolus

B. Chyme

C. Succus entericus

D. Chylomicron

Answer: B

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44. Pepsin converts proteins into ___

A. rennin

B. proteoses and peptones

C. amino acids

D. lipase.

Answer: B

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45. The site of action and substrate of rennin are respectively

A. mouth and starch

B. small intestine and protein

C. stomach and casein

D. stomach and fat.

Answer: C

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46. Refer to the given flow chart. Milk casein $\xrightarrow{Y}$ Paracasein $\xrightarrow{Z}$. Calcium paracaseinate (Curdiling of milk). In it, letter 'y' and 'z' denote

A. rennin and Ca^{++}

B. Ca^{++} and rennin

C. rennin,HCL and Ca^{++}

D. renin and Ca^{++}

Answer: A

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47. Which enzyme initiates protein digestion?

A. Pepsin

B. Trypsin

C. Aminopeptidase

D. Carboxypeptidase

Answer: A

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48. Digestion of proteins begins in the $overst((i)) \rightarrow$ and digestion of polysaccharides begins in the $((ii)) \rightarrow$.

A. mouth stomach

B. stomach small intestine

C. stomach mouth

D. stomach stomach

Answer: C

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49. What will happen if the secretion of parietal cells of gastric glands is blocked with an inhibitor?

A. In the absence of HCl secretion, inactive pepsinogen is not converted into the active enzyme pepsin.

B. Enterokinase will not be released from the duodenal mucosa and so trypsinogen is not converted to trypsin.

C. Gastric juice will be deficient in chymosin.

D. Gastric juice will be deficient in perpsinogen.

Answer: A

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50. If for some reason the parietal cells of the gut epithelium become partially non-functional, what is likely to happed?

A. The pancreatic enzymes and specially the trypsin and lipase will not work efficiently.

B. The pH of stomach will fall abruptly.

C. Steapsin will be more effective.

D. Proteins will not be adequately hydrolysed by pepsin into proteoses and peptones.

Answer: D

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51. The epithelial cells lining the stomach of vertebrates are protected from damage by HCl because

A. HCl is too dilute

B. the epithelial cells are resistant to the action of HCl

C. HCl is neutralised in the stomach

D. the epithelial cells are covered by a mucus secretion.

Answer: D

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52. Digestion of which component of food will be affected if the pH of stomach is made 7?

A. Fat

B. Protein

C. Sucrose

D. Vitamins

Answer: B

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53. Which of the following has minimum pH?

A. Bile

B. Gastric juice

C. Saliva

D. Pancreatic juice

Answer: B

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54. Pepsin acts in

A. basic medium

B. acidic medium

C. neutral medium

D. all types of medium.

Answer: B

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55. If pH of stomach is 1.6, then which enzyme wil digest protein?

A. Amylase

B. Trypsin

C. Erypsin

D. Pepsin

Answer: D

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56. Which of the follwing statements is false?

A. The stomach stores the food for 1-2 hours.

B. Gastric gland never secretes even a small amount of lipase.

C. Rennin. A proteolytic enzyme is found in gastric juice of infants.

D. All of these

Answer: B

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57. Which one of the following pairs of food components in humnas reahces the stomach totally undiagested?

A. Starch and fat

B. Fat and cellulose

C. Starch and cellulose

D. Protein and starch

Answer: B

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58. Various types of movements are generated by the ____ layer of the small intestine.

A. serosa

B. muscularis

C. mucosa

D. submucosa

Answer: B

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59. The enzyme enterokinase helps in the conversion of

A. caesinogen into caesin

B. trypsinogen into trypsin

C. pepsinogen into pepsin

D. proteins into polypeptides.

Answer: B

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60. In this enzyme is absent in our small intestine, digestion of proteins in our body would be severly affected identify the enzyme.

A. Pancreatic amylase

B. Maltase

C. Lipase

D. Enterokinase

Answer: D

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61. In humnas one of the constituents of the pancreatic juice which is poured into the doudenum is

A. trypsinogen

B. chymotrypsin

C. trypsin

D. enterokinase.

Answer: A

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62. Mark the odd one in each series and select the correct option

(i) Villi,Brunner's glands, crypts of Lieberkuhn,gastric glands

(ii) Pepsin,lipase,trypsin,rennin

(iii) Bile salts, bile pigments, gall bladder, gastric juice

A.

(i)	(ii)	(iii)
Gastric glands	Lipase	Gastric juice

B.

(i)	(ii)	(iii)
Villi	Rennin	Gall bladder

C.

(i)	(ii)	(iii)
Brunner's glands	Trypsin	Bile pigments

D.

(i)	(ii)	(iii)
Crypts of lieberkuhn	Pepsin	Bile salts

Answer: A

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63. A yound 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. The yellow colour of stool is due to

A. bile pigments passed through bile juice

B. undigested milk protein casein

C. pancreatic juice poured into duodenum

D. intestinal juice.

Answer: A

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64. Mathc column I with column II and select the correct option from the given codes.

Column I	Column II
Salivary amylase	(i)Proteins
Bile salts	(ii)Milk proteins
Rennin	(iii)Starch
Pepsin	(iv)Lipids

A. iii,iv,ii,i

B. iii,iv,i,ii

C. iv,iii,ii,i

D. i,ii,iii,iv

Answer: A

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65. The pH of succus entericus is

A. 6.6

B. 5.6

C. 2

D. 7.8

Answer: D

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66. Brunner's gland is present in

A. liver

B. duodenum

C. oesophagus

D. stomach.

Answer: B

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67. Which one of the following is the correct mathcing of the site of action on the given substrate, the enzyme acting upon it and the end producrt?

A. Small intestine: Proteins $\xrightarrow{\text{Pepsin}}$ Amino acids

B. Stomach : Fats $\xrightarrow{\text{Lipase}}$ Micelles

C. Duodenum: Triglycerides $\xrightarrow{\text{Trypsin}}$ Monoglycerides

D. Small intenstine: Starch $\xrightarrow{\text{a-analyase}}$ Disaccharide (maltose)

Answer: D

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68. Consider the folloiwng four statements and select the correct option stating which one are true(T) and which ones are false(F)

A. Silivary amylase hydrolyses proteins to amino acids.

B. Psancreatic amylase hydrolyses polysaccharides to disaccharides.

C. Enteropeoptidase activaes pepsiogen to pesin.

D. Trypsin coagulates the milk protein casein

Answer: C

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69. Fill in the blanks with appropriate enzymes that are required for the following changes.

A. Tryppsinogen $\xrightarrow{?}$ Trypsin

B. Caesin $\xrightarrow{?}$ Paracasein+Whey proteins

C. RNA $\xrightarrow{?}$ Ribonucleotides

D. Triglycerides $\xrightarrow{?}$ Fatty acids +Glycerol

Answer: D

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70. Select the incorrect statement.

A. Lipases and nucleases are not present in pancreatic juice

B. Goblet cells secrete mucus.

C. Brunner's glands are sub-mucosal glands.

D. Carboxypeptidase catalyses conversion of proteins, peptones and proteoses to dipeptides.

Answer: A

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71. Which of the following is incorrectly represented?

A. Proteins $\xrightarrow[\text{Carboxypeptidase}]{\text{Trypsin//Chymotrypsin}}$ dipeptides

B. Nucleic acids $\xrightarrow{\text{Nucleotidases}}$ nucleotides

C. Fats $\xrightarrow{\text{Lipases}}$ di/monogycerides

D. Starch $\xrightarrow{\text{Salivary amylase}}$ maltose

Answer: B

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72. Which of the option given below would not correctly fills the blanks in the following sentence ? In order to absorb and use__ by the body, these must be broken down by hydrolysis into ___

A. monosacchardes, polysaccharides

B. proteins, amino acids

C. glycerol, fatty acids and fats

D. monosaccharides, disaccharides

Answer: B

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73. The back flow of faecal matter from the large intestine into the small intestine is prevented by the presence of

A. epiglottis

B. sphincter of Oddi closes the hepato-pancreatic duct

C. ileo-caecal valve

D. gastro-oesophageal sphincter.

Answer: C

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74. choose the wrong enzymatic reaction.

A. Sucrose $\xrightarrow{\text{Invertase}}$ Glucose+Fructose

B. Lactose $\xrightarrow{\text{Lactase}}$ Glucose+Fructose

C.

D. Pepsinogen $\xrightarrow{HCl}$ Pepsin

Answer: B

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75. A child took sugarcane and sucked its juice, Regarding this which of the following match is correct

A.

Substate	Enzyme	Site of secretion of enzyme	Products formed
Proteins	Pepsin	Duodenum	Polypeptides

B.

Substate	Enzyme	Site of secretion of enzyme	Products formed
Starch	Amylase	Salivary glands	Glucose

C.

Substate	Enzyme	Site of secretion of enzyme	Products formed
Lipids	Lipase	Pancreas	Glucose+

D.

Substate	Enzyme	Site of secretion of enzyme	Products formed
Sucrose	Invertase	Duodenum	Glucose+fructose

Answer: D

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76. Which of the following match is correct?

A. Renin-protein

B. Trypsin-Starch

C. Invertase-Sucrose

D. Amylase-Lactose

Answer: C

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77. Which of the following proceseses is helped by bile slats?

A. Nucletic acid $\xrightarrow{\text{Nucelase}}$ Nucleotides $\left.\begin{matrix}\xrightarrow{\text{Nuceotidase}}\\ \xrightarrow{\text{Nucleosidase}}\end{matrix}\right)$ Nucleosides + Sugars+bases

B. Soucrose $\xrightarrow{\text{Sucrase}}$ Glucose + Fructose

C. Fats $\xrightarrow{\text{Lipase}}$ Diglycerides $\xrightarrow{\text{Lipase}}$ Monoglycerides

D. Proteins, peptones, proteoses $\xrightarrow[\text{Carboxypeptidase}]{\text{Trypsin//Chymotrypsin}}$ Dipeptides

Answer: C

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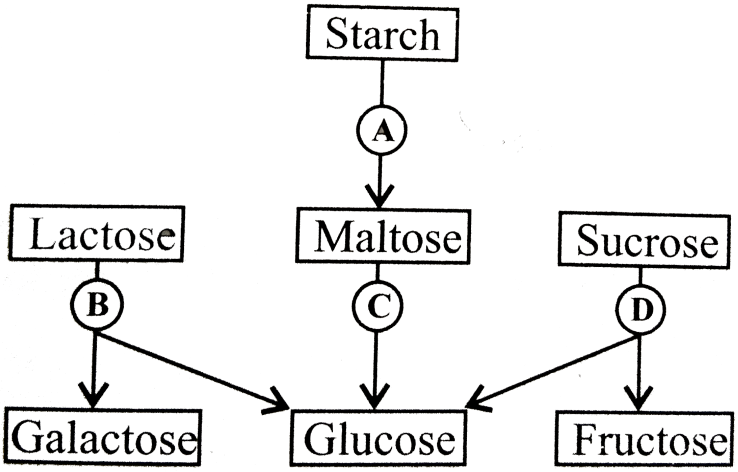
78. The given flowchart shows the fate of carbohydrates during digestion in the human alimentary canal. Identify the enzymes acting at stages indicated as A,B,C and D and selct the correct option.



A. A-amylase,B-maltase,C-lactase,D-invertase

B. A-amylase,B-maltase,C-invertase,D-lactase

C. A-amylase,B-invertase,C-maltase,D-lactase

D. A-amylase,B-lactase,C-maltase,D-invertase

Answer: D

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79. Consider the following four statements and select the correct option stating which ones are true (T) and which ones are false (F).

(i) The stomach has the lwest pH.

(ii) The liver contains lpid emulsifier

(iii) Large intestine secretes many enzymes.

(iv) All proteases function in the lumen of small intestine.

A. T F T F

B. F T F T

C. F F T T

D. T T F F

Answer: D

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80. Which of the following is not the function of large intestine?

A. Absorption of water

B. Nutrient absorption

C. Secretion of mucus to lubricate faeces

D. Temprory storage of faeces in rectum

Answer: B

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81. Carrier ions like Na^+ faciltate the absorption of substance like

A. amino acids, and glucose

B. glucose and fatty acids

C. fatty acids and glycerol

D. fructose and some amino acids.

Answer: D

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

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

B. Chylomicrons are small lipoprotein particles that are trasnporated from intesntine into blood capillaries.

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

D. Oxyntic cells in our stomach secrete the proenzyme pepsiongen.

Answer: A

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83. Consider the following statements each with one or two blanks

(i) Trypsiongen is activated to trypsin by (1)

(ii) Fatty acids and glycerol are absorbed into (2) but glucose and amino acids are absorbed into (3).

Which one of the following option give the correct fill ups for the respectives blanks (1) to (3) in the statements?

A. (1)-cholecystokinin, (2)-blood vessels, (3)-lacteals

B. (2)-lacteals, (3)-blood capillaries

C. (1)-enterokinase,(2)-blood capillaries,

D. (1)-chymotrysinogen,(3)-lacteals

Answer: B

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84. Fill up the balnsk in the following paragraph by selcting the correct option. Small amounts of monoaccharides like glucose, amino acids and osme of elctrolytes like chloride ions are absorbed by (i). However, some of the substances like fructose and some amino acids are absorbed by the mechanism called the (ii). Various nutrients like amino acids and electrolytes like Na^+ are absorbed into the blood by (iii).

A. (i) Facilitated transport (ii) active transport (iii) simple diffusion

B. (i) simple diffusion (ii) facilitated transport (iii) active transport

C. (i) active transport (ii) transport active (iii) diffusion facilitated

D. (i) simple diffusion (ii) active transport (iii) facilitated transport

Answer: B

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85. During absorption of carbohydrates in the blood the most rapidly transported monosaccharide is

A. glucose

B. galactose

C. fructose

D. sucrose.

Answer: B

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86. Consider the following statements each with one or two balnks.

(i) The bile duct and the pancreatic duct open together into the duodenum as the (1) which is guarded by a sphincter called the (2)

(ii) (3) is a proteolytic enzyme found in gastric juice of infanta which hleps in the digestion of milk proteins.

(iii) Fatty acids and glycerol being insoluble, cannot be absorbed into the

blood. They are first incorporated into small droplets called (4) which move into the intestinal mucose. They are re-formed into very small protein coated fat globules called the very samll protein coated fat globules called the (5) which are transported into the lymph vessels (lacteals) in the villi.

Which of the folllowing options gives the correct fill ups for the respective blanks in the above statements?

A. (1)-common bile duct, (2)-sphincter of Boyden, (3)-Pepsin

B. (3) Rennin,(4)-chyme, (5)-micelles

C. (1)-Common hepato-pancreatic duct, (2)-sphincter of Oddi, (4)-micelles, (5)-chylomicrons

D. (3)-Casein,(4)-chylomicrons,(5)-micelles

Answer: C

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87. Which of the following statements are incorrect about chylomicrons?

(i) Chylomicrosn are produced in the epthelial cells of small intestine.

(ii) It contains trigycerides, chloesterol and phospholipids.

(iii) They are protein coated small vesicles.

(iv) Chylomicrons are released from the epithelial cell into lacteals/

A. i and iv

B. ii and iii

C. i,ii,iii and iv

D. none of these

Answer: D

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88. Which of the following statemetns is fasle?

A. The breakdown of most of biomacromolecules occurs in duodenum.

B. Simple substances (digested foods) are abosrbed in the jejunum and ileum.

C. Significant digestive activity occurs in large intestine.

D. Undiagested and unabsorbed susbtances are passed on to the large intestine.

Answer: C

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89. Read the following statements and select the correct option.

Statement 1 : The human small intestime is the longest portion in the alimentary canal.

Statement 2: Absorption of digested food requires a very large surface area.

A. Both statement 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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90. Which of the following statemetns is/are incorrect?

(i) Absroption of simple sugar, alcohol, some water and medicines takes place in stomach.

(ii) Maximum water absorption occurs in large intestine.

(iii) Small intestine is the major site of digestion and absorption of food.

(iv) Fatty acid and glycerol are absorbed by lacteals.

(v) Nothing is absorbed in mouth and large intestine.

A. i,iv and v

B. v only

C. iv only

D. ii and iii

Answer: B

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91. Read the following four statemetns (i) to (iv) with crtain mistakes in two of them .

(i) Fructose is fenerally absorbed by simple diffusion.

The digestive waters. Solidfied into coherent faces in the rectum initiate an endocrinal action causing an urge or desire for its removal.

(iii) The food mixed thorughly with the acidic gastric juice of the stomach by the churning movements of itws muscular wall and is called the chyme.

(iv) The secretions of the brush border cells of the mocosa alongwith the secretons of the goblet cells constitute the succus entericus.

Which of the above two statements have mistake?

A. i and ii

B. ii and iii

C. iii and iv

D. i and iii

Answer: A

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92. In which of the following order, the process of digestion proceeds ?

A. Digestion $\rightarrow$ Ingestion $\rightarrow$ Absorption $\rightarrow$ Assimilation $\rightarrow$ Egestion

B. Digestion $\rightarrow$ Ingestion $\rightarrow$ Assimilation $\rightarrow$ absortion $\rightarrow$ Egestion

C. Ingestion $\rightarrow$ Digestion $\rightarrow$ Assimilation $\rightarrow$ Absorption $\rightarrow$ Egestion

D. Ingestion $\rightarrow$ Digestion $\rightarrow$ Absorption $\rightarrow$ Assimilation $\rightarrow$ Egestion

Answer: D

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93. Stool of a person is whitish grey coloured due to malfunction of which of the following organs?

A. Pancreas

B. Spleen

C. Kidney

D. Liver

Answer: D

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94. Which of the following is correct regarding jaundice?

A. Skin turns yellow

B. Eyes turn yellow

C. Liver gets affected

D. All of these

Answer: D

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95. Ejection of stomach contents through the mouth is called ___.

A. diarrhoea

B. constipation

C. vomiting

D. indigestion

Answer: C

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96. Which of the following statements is incorrect?

A. Faecal accumulation in the rectum initiates a neural reflex causing an urge for its removal.

B. Irregular bowel movements cause constipation.

C. in diarrhoea absorption of food is increased.

D. All of these

Answer: C

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97. Anxiety and eating spicy food together in an otherwise normal human, may lead to

A. indigestion

B. jaundice

C. diarrhoea

D. vomiting.

Answer: A

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98. Which of the follwing are the causes of indigestion?

A. Anxiety

B. Food poisoning

C. Over eating

D. All of these

Answer: D

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99. Emaciation of the body, thinning of limbs, skin becoming dry, thin and wrikled, impairment of growth and development of brain and mental faculties in infants less than a year in age occurs Is ___

A. kwashiorkar

B. marasmus

C. constipation

D. jaundice

Answer: B

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100. Kwashiorkar occurs due to

A. deficiency of proteins and calories

B. protein deficiency

C. deficiency of calcium

D. deficiency of fats.

Answer: B

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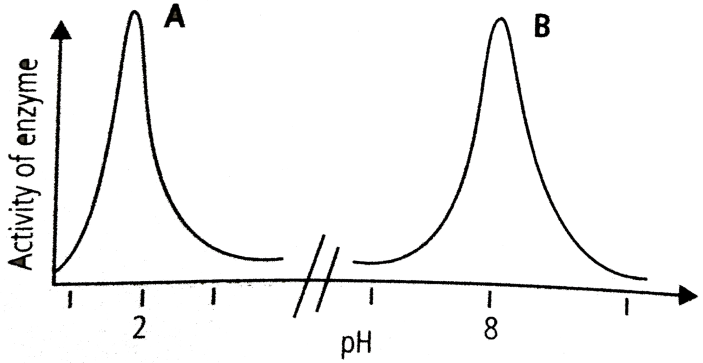
101. A and B in the given graph are the action spectra of the two enzymes.

The two enzymes are



A. A: amylase B: trypsin

B. A: pepsin B: trypsin

C. A: chymotrypsin B: rennin

D. A: lectate dehydrogenase B: amylase.

Answer: B

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102. If the inner surface of the ileum in the human small intestine was smooth, rather than being folded and subdivided into villi, which of the following statements would be true?

A. The rate of absorption of digested food molecules would be higher, because the digested food would pass more easily thorugh the digestive tract.

B. Digestion would not be as effective, because there would be fewer cells scretting trypsin (a protein-digesting enzyme).

C. Humans would have needed to evolve a much longer small intesntine to absorb sufficient nutrients from their food.

D. Humans would not be able to survive, because the digestive tract would be more susceptible to damage.

Answer: C

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103. Digestion of food involves breaking down of good componets into smaller molecules by enzymes. These enzymes are active only at certain hydrogen ion concentration. As a result, certain food combinations can facilitate or retard the process of digestion. Of the following combinations, one that can result in very efficient digestion is

A. meal with high proteins and cacid fruits

B. meal with high starch and high proteins

C. meals with high starch and acid fruits

D. meal with high fat and high proteins.

Answer: A

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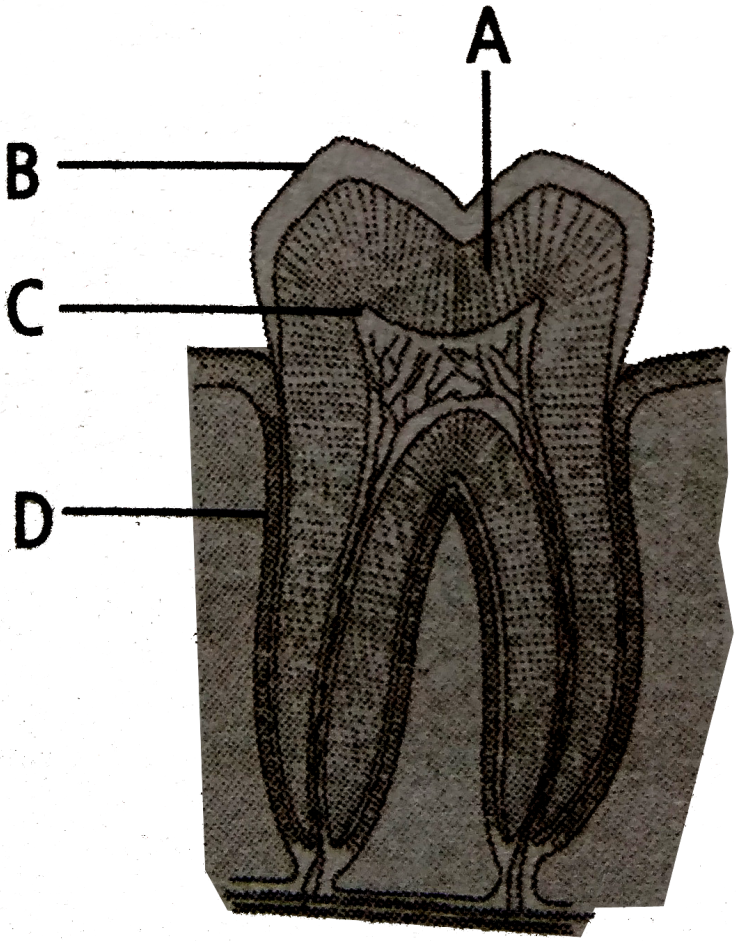
104. In the given figure of human tooth, some parts are labelled as A,B,C and D identify these parts and mathc them with their description given below.

(i) Contains mineral matter, mainly calcium

70% mineral maater, mainly calcium

(iii) Hardest material in the body

(iv) Connects root to the jawbone



A. i,ii,iii,iv

B. ii,iii,iv,i

C. iii,ii,iv,i

D. ii,iii,i,iv

Answer: D

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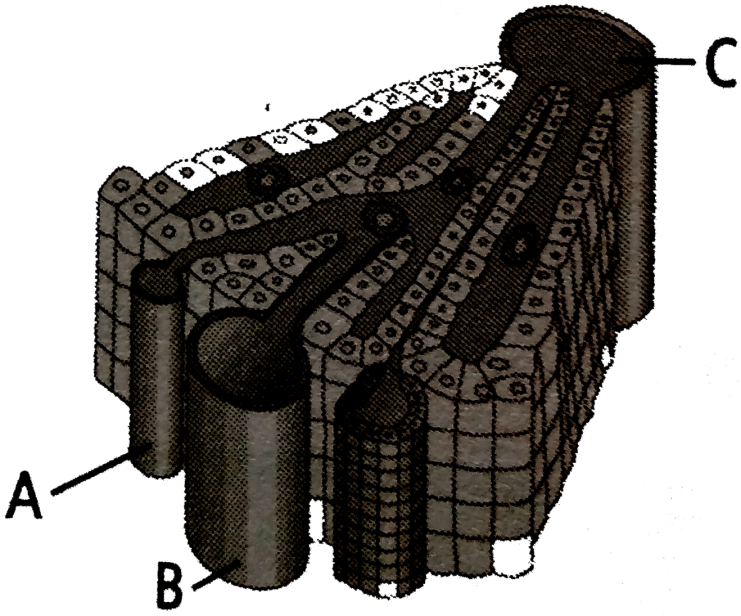
105. The given dissection figure shows the blood vessels in liver tissue. The three main blood vessels are indicated by capital letters (A-C). Following statements describe properties of blood that flows through these blood vessesl. For each description, indicate the vessel where that blood would be found.

(i) Blood with the highest oxygen content.

(ii) Blood that contains newly absorbed nutrients.

(iii) Deoxygenated blood.



A. i-A,ii-C,iii-B

B. i-A,ii-B,iii-C

C. i-C,ii-A,iii-B

D. i-C,ii-B,iii-A

Answer: B

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106. Which of the following sttements regarding small intesitine are incorrect?

(i) Throughout the small intestine, there are crypts of lieberkuhn at the base of the villi.

(ii) In douodenum, there are, in addition, small rounded peptic glands.

(iii) The small intestine is strongly self-rotective, by means of a copious production of mucus and a mechanism of the rapid replacement of cells damaged by contact with food and digestive juices.

(iv) Each villus is richly supplied with blood capillaries only

A. i and iv

B. ii and iv

C. iii and iv

D. i and iii

Answer: B

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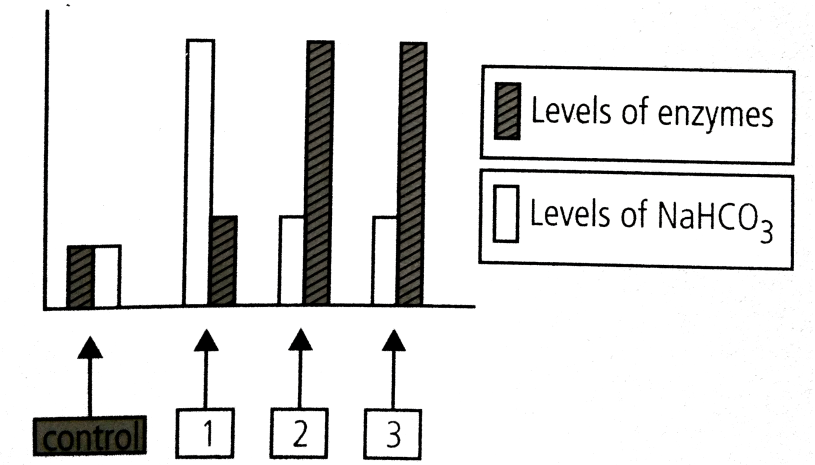
107. Effect of some compounds (present in partially digested food) on pancreatic seretion is depicted in the bar graph. Compounds 1,2 and 3 r4epresent.



A. 1 Acid 2 Fat 3 Salt

B. 1 Salt 2 Peptone 3 Fat

C. 1 Acid 2 Fat 3 Peptone

D. 1 Pepsin 2 Acid 3 Fat

Answer: C

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108. Which of the following is the primary absorptive process in the large intestine?

A. Active transport of Na^+ from the lumen to the blood

B. Absortion of amino acids and fructose

C. Active transport of potassium from the lumen to the blood

D. Active absorption of HCO_3^- into the blood

Answer: A

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109. Which of the following statements are correct regarding secretion oxynthic cells?

(i) It denatures proteins and softens fibrous connective tissues in the blood.

(ii) It activates rennin.

(iii) It has a role in maturation of RBCs.

(iv) It activates trypsin.

A. I and iv

B. ii,iii and iv

C. I,ii and iii

D. I,ii,iv

Answer: C

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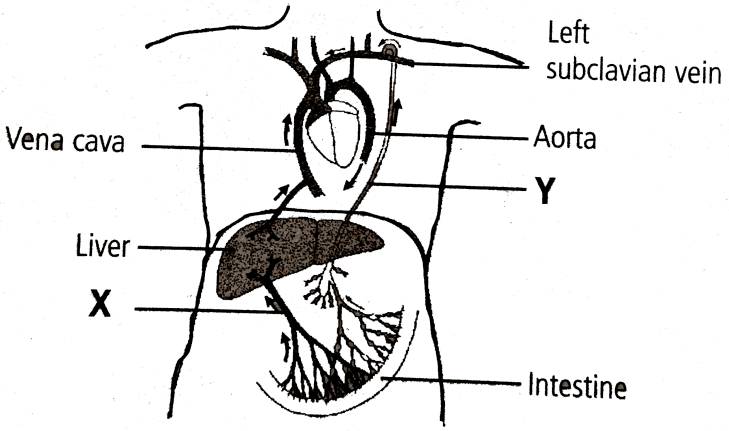
110. Observe the given figure having arrows to illustrate the movement of abosrbed food in the body select the correct option regarding it.



	Sugars		Amino acids		Fat/fatty acids/ glycerol	
A.	X	Y	X	Y	X	Y
	√	×	×	×	√	√
	Sugars		Amino acids		Fat/fatty acids/ glycerol	
B.	X	Y	X	Y	X	Y
	√	×	√	×	×	√
	Sugars		Amino acids		Fat/fatty acids/ glycerol	
C.	X	Y	X	Y	X	Y
	×	√	×	√	×	√
	Sugars		Amino acids		Fat/fatty acids/ glycerol	
D.	X	Y	X	Y	X	Y
	√	√	×	×	√	√

Answer: B

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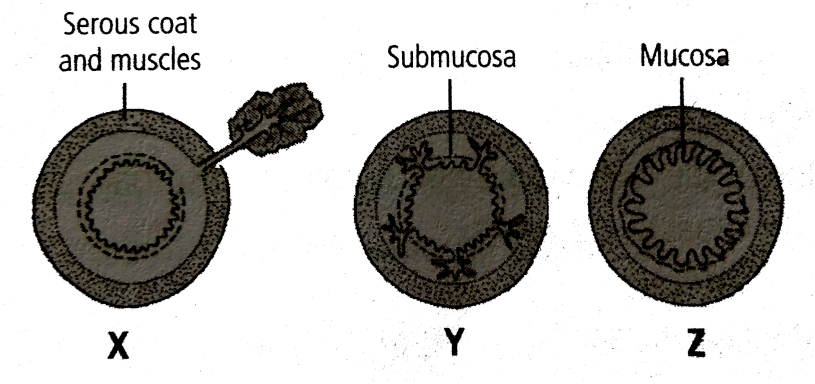
111. Glands of the gut are of three types as shown in the figure



Classify the following exzapmples of glands under X,Y and Z.

(i) Salivary gland (ii)Liver

(iii) Crypts of Lieberkuhn (iv) Brunner's gland

(v) Pancreas (vi) Gastric gland

A. I,ii,v,iv,iii,vi

B. iii,iv,v,vi,I,ii

C. iii,v,I,ii,iv,vi

D. I,ii,v,iv,iii,vi

Answer: D

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112. Which of the following is incorrect regarding the given digestion and absorption of protein?

A. The breakdwon of proteins to peptides is catalyzed by pepsin in the stomach and by the pancreatic enzymes trypsin and chymotrypsin in the small intestine.

B. Peptides are broken down into amono acids by pancreatic carboxypeptidase and intestinal aminopeptidase.

C. Small peptides consisting of two or three amono acids can diffuse through epithelial cell and broken down into carbon dioxide and ammonia which are released into the blood.

D. none of these

Answer: C

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113. Select what is not true of intestinal villi among followings.

A. They possess microvilli.

B. They increase the surface area.

C. They are supplied with capillaries and the lacteal vessels.

D. They only participate in digestion of fats.

Answer: D

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114. Hepato-pancreatic duct opens into the duodenum and carrues

A. bile

B. pancreatic juice

C. both bile and pancreatic juice

D. saliva.

Answer: C

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

A. Tetanus

B. Diarrhoea

C. jaudice

D. Dysentery

Answer: A

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116. A gland not associated with the alimentary canal is

A. Pancreas

B. adrenal

C. liver

D. salivary glands

Answer: B

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117. Mathc the two column and select the correct among option given.

Column I	Column II
Biomacromolecules	(i)Alimentary canal and associated gland
Human digestive system	(ii)Embedded in jawbones
Stomach	(iii)Outer wall of visceral organs
Thecodont	(iv)Converted into simple substances
Serose	(v)J-shaped bag like structure

A. ii,I,v,iii,iv

B. iv,iv,ii,iii

C. I,ii,iii,iv,v

D. I,iii,ii,iv,v

Answer: B

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118. Match the two column and select the right one among option given

Column I	Column II
Duodenum	(i)A cartilaginous flap
Epiglottis	(ii)Small bilnd sac
Glottis	(iii)'C' shaped structure emerging from the stomach
Caecum	(iv)Opening of wind pipe

A. I,ii,iii,iv

B. iv,iii,ii,i

C. iii,I,iv,ii

D. ii,iv,I,iii

Answer: C

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119. Mathc the enzymes with their respective substrates and choose the right one among options given.

Column I	Column II
Lipase	(i)Dipeptides
Nuclease	(ii)Fats
Carboxypeptidase	(iii)Nucleic acids
Cipeptidases	(iv)Proteins, peptones and proteoses

A. ii,iii,I,iv

B. iii,iv,ii,i

C. iii,I,iv,ii

D. ii,iii,iv,i

Answer: D

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120. Dental formula in human beings is

A. $\frac{3223}{3223}$

B. $\frac{2123}{2123}$

C. $\frac{1232}{1232}$

D. $\frac{2233}{2233}$

Answer: B

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121. 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 gastrin

Answer: D

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122. Mark the right statement among the following.

A. Trypsiogen 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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123. Assertion: Human beings have two sets of teeth during their life.

Reason: Human beings have thecodont dentition.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

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124. Assertion: Oesophagus pierces the diaphragm and enters the abdominal cavity.

Reason: Peristaltic movement starts from oesophagus.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

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125. Assertion : Caecum is a small blind sac which hosts some symbiotic microorganisms.

Reason: Escherichia coli in return produces vitamin b_{12} vitamin K, thiamine and riboflavin.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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126. Assertion : Products of digestion are absorbed in the large intestine.

Reason: The mucosal lining of large intestine forms finger-like foldings called villi which aid in absorption.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: D

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127. Assertion: Pancreas in a heterocrine glan.

Reaon: Endocrine part secretes insulin and glucagon and exocrine part secretes an acidic pancreatic juice containing enzymes.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C

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128. Assertion: Mucosal epithelium of gut has goblet cells which secrete mucus.

Reason: The mucus in the gastric and pancreatic juice protects the mucosa from excoriation by acidic secretion.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

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129. Assertion: Gastrectomy can lead to iron-deficiency or anaemia.

Reason: HCl of gastric juice converts Fe^{3+} into Fe^{2+} which makes iron absorbabale.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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130. Assertion: Trypsinogen is activated by enterokinase into active trypsin which in turn activates other enzymes in the pancreatic juice

Reason: The pancreatic juice contains inactive enzymes which are activated by intestinal juice.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

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131. Assertion: Bile is not a true digestive juice

Reason: Bile lacks digestive enzymes.

A. If both assertion and reason are true and reason is the correct explanation of assertion

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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132. Assertion: The gall bladder stores lipases which are released in small intestine for digestion.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C

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133. Assertion: The slight, smell and presence of good in the oral cavity can stimulate secretion of saliva.

Reason: About 70 per cent of the starch is hydrolyzed in oral cavity by salivary amylase.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: D

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134. Assertion: The sight, smell and presence of food in the oral cavity can stimulate secretion of saliva.

Reason: The activities of the gastro-intestinal tract are only under neutral control for proper coordination of different parts.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C

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135. Assertion: Glucose, Na^+ and amino acids are absorbed actively.

Reason: Na^+, glucose and amino acids move against the concentration gradient and hence require energy .

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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136. Assertion: Bile helps in emulsification of fat.

Reason: Bile salts help in incorporating fatty acids and glycerol into water

soluble droplets called chylomicrons.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C

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137. Assertion: Water and electrolytes are almost fully absorbed in the large intestine.

Reason: In large intestine, haustral contraction (slow semgmenting movements) roll the forming faeces over and over, causing absorption of water and electrolytes.

A. If both assertion and reason are true and reason is the correct explantion of assertion

B. If both assertion and reason are true but reason is not the correct explnantion of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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