Time : 1 Mins **DIGESTION AND ABSORPTION 1** **Marks : 800**

1. Digestion of proteins begins in the _____and digestion of polysaccharides begins in the _____.

a)		b)		c)		d)	
(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
mouth	stomach	stomach	small intestine	stomach	mouth	stomach	stomach

2. Match column I with column II and select the correct option from the given codes

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

a) A-(iii), B-(iv), C-(ii), D-(i) b) A-(iii), B-(iv), C-(i), D-(ii) c) A-(iv), B-(iii), C-(ii), D-(i)
d) A-(i), B-(ii), C-(iii), D-(iv)

3. Apatient is generally advised to specially, consume more meat, lentils, milk and eggs in diet only when he suffers from _____ .
a) Scurvy b) Kwashiorkor c) Rickets d) Anemia

4. 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 level falls rapidly after hepatectomy.
a) Both statements 1 and 2 are correct
b) Statement 1 is correct but statement 2 is incorrec
c) Statement 1 is incorrect but statement 2 is correct
d) Both statements 1 and 2 are incorrect.

5. Two friends are eating together on a dining 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

6. Which of the following statements regarding small intestine are incorrect?
(i) Throughout the small intestine, there are crypts of Lieberkuhn at the base of the villi.
(ii) In duodenum, there are, in addition, small rounded peptic glands.
(iii) The small intestine is strongly self-protective, by means of a copious production of mucus

and a mechanism for 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 (ii)

7. Anxiety and eating spicy food together in an otherwise normal human, may lead to____
a) Indigestion b) Jaundice c) Diarrhoea d) Vomiting
8. Which of the following statements are correct regarding secretion of oxyntic 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) and (iv)
9. Which of the following is incorrectly represented?
a) $Proteins \xrightarrow{Trypsin/Chymotrypsin} dipeptides$ b) $Nucleic \quad acids \xrightarrow{Nucleotidases} nucleotides$
c) $Fats \xrightarrow[Carboxypeptidase]{Lipases} di/monoglycerides$ d) $Starch \xrightarrow{Salivary \quad amylase} maltose$
10. Various types of movements are generated by the_____layer of the small intestine
a) serosa b) muscularis c) mucosa d) submucosa
11. 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. What is this yellow colour due to?
a) Pancreatic juice poured into the duodenum b) Intestinal juice
c) Bile pigments passed through bile juice d) Undigested milk protein casein
12. In which layer of stomach are gastric glands located?
a) Serosa b) Mucosa c) Submucosa Mucosa d) Muscularis mucosa
13. Read the following statements and select the correct option.
Statement 1 :The human small intestine is the longest portion in the alimentary canal.
Statement 2 :Absorption of digested food requires a very large surface area.
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.
14. Which group of three of the following five statements (A-E) contain is all three correct statements regarding beri-beri?
(A) a crippling disease prevalant among the native population of sub-Saharan Africa;
(B) a deficiency disease caused by lack of thiamine (vitamin B_1)
(C) a nutritional disorder in infants and young children when the diet is persistently deficient in essential protein
(D) occurs in those countries where the staple diet is polished rice;
(E) the symptoms are pain from neuritis, paralysis, muscle wasting, progressive oedema, mental deterioration and finally heart failure
a) B, D and E b) A, B and D c) A, C and E d) B, C and E

15. Consider the following statements each with one or two blanks.
(i) The bile duct and the pancreatic duct open together into the duodenum as the___(i)_____which is guarded by a sphincter called the_____(ii)_____
(ii) ___(iii)____ is a proteolytic enzyme found in gastric juice of infants which helps 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 _____(iv)____ which move into the intestinal mucosa. They are re-formed into very small protein coated fat globules called the ____(v)_____ which are transported into the lymph vessels (lacteals) in the villi.
Which of the following options gives the correct fill ups for the respective blanks in the above statements?

		(1) - Common hepato-pancreatic duct,
(1) - common bile duct,	(3) - Rennin,	(2) - phincter of Oddi,
(2) - sphincter of Boyden,	(4) - chyme,	(4) - micelles,

a) (3) - Pepsin
(3) - Casein,
(4) - chylomicrons,
d) (5) - micelles

b) (5) - micelle

c) (5) - chylomicrons

16. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
Assertion: Gastrectomy can lead to iron-deficiency or anaemia
Reason: HCl of gastric juice converts Fe^{3+} into Fe^{2+} which makes iron absorbable.
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.

17. Ejection of stomach contents through the mouth is called_____
a) diarrhoea b) constipation c) vomiting d) indigestion

18. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
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 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.

19. Which part of body secretes the hormone secretin?
a) Oesophagus b) Duodenum c) Stomach d) Ileum

20. Carrier ions like Na+ facilitate the absorption of substances like:
a) amino acids and glucose b) glucose and fatty acid c) fatty acids and glycerol
d) fructose and some amino acids

21. Cholecystokinin and duocrinin are secreted by_____
a) adrenal cortex b) thyroid gland c) pancreas d) intestine

22. Which of the following match is correct?
    a) Renin - Protein b) Trypsin - Starch c) Invertase - Sucrose d) Amylase - Lactose

23. Hepato-pancreatic duct opens into the duodenum and carries
    a) bile b) pancreatic juice c) both bile and pancreatic juice d) saliva.

24. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
    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 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.

25. Digestion of food involves breaking down of food components into smaller molecules by enzymes. These enzymes are active only at certain hydrogen ion concentrations. 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 acid fruits b) meal with high starch and high proteins
    c) meal with high starch and acid fruits d) meal with high fat and high proteins

26. Secretin and cholecystokinin are digestive hormones.They are secreted in___
    a) Pyloric stomach b) Duodenum c) Ileum d) Oesophagus

27. 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

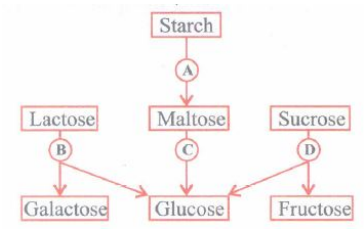
    c)

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

    d)

(i)	**(ii)**	**(iii)**
Crypts of Lieberkuhn	Pepsin	Bile salts

28. 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 select 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

29. 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

30. Match the enzymes with their respective substrates and choose the right one among options given.

Column I	**Column II**
A. Lipase	(i) Dipeptides
B. Nuclease	(ii) Fats
C. Carboxypeptidase	(iii) Nucleic acids
D. Dipeptidases	(iv) Proteins, peptones and proteoses

a) A-(ii), B-(iii), C-(i), D-(iv) b) A-(iii), B-(iv), C-(ii), D-(i) c) A-(iii), B-(i), C(iv), D-(ii)

d) A-(ii), B-(iii), C-(iv), D-(i)

31. In man the zymogen or chief cells are mainly found in_____

a) cardiac part of stomach b) pyloric part of stomach c) duodenum

d) fundic part of stomach

32. Which of the options 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) monosaccharides, polysaccharides b) proteins, amino acids

c) glycerol, fatty acids and fats d) monosaccharides, disaccharides

33. Gastric juice of infants contains_____

a) nuclease, pepsinogen, lipase b) pepsinogen, lipase, rennin

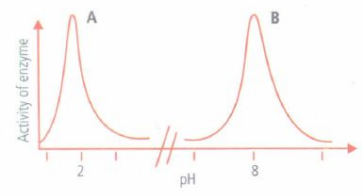
c) amylase, rennin, pepsinogen d) maltase, pepsinogen, rennin

34. 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

35. 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: lactate dehydrogenase B: amylase

36. A person who is one along hunger strike and is surviving only on water, will have _____ .

a) less amino acids in his urine b) more glucose in his blood c) less urea in his urine

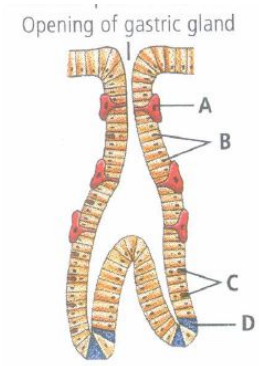
d) more sodium in his urine

37. Epithelial cells ofthe intestine involved in food absorption have on their surface____

a) pinocytic vesicles b) microvilli c) zymogen granules d) phagocytic vesicles

38. Which of the following statements are incorrect about chylomicrons?
(i) Chylomicrons are produced in the epithelial cells of small intestine.
(ii) It contains triglycerides,cholesterol 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

39. Examine the figure of gastric gland given below and identify the labelled parts A to D.



a)

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

b)

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

c)

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

d)

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

40. Stenson's duct is associated with
a) parotid gland b) cardiac gland c) pancreatic gland d) thyroid gland

41. 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 through the digestive tract.
b)
Digestion would not be as effective, because there would be fewer cells secreting trypsin (a proteindigesting enzyme)
c)
Humans would have needed to evolve a much longer small intestine 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.

42. 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 c) ileo-caecal valve d) gastro-oesophageal sphincter.

43. 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) Temporary storage of faeces in recturn

44. Which of the following options best represents the enzyme composition of pancreatic juice?
    a) Amylase, peptidase, trypsinogen, rennin b) Amylase, pepsin, trypsinogen, maltase
    c) Peptidase, amylase, pepsin, rennin
    d) Lipase, amylase, trypsinogen, procarboxypeptidase

45. If this enzyme is absent in our small intestine, digestion of proteins in our body would be severely affected.Identify the enzyme
    a) Pancreatic amylase b) Maltase c) Lipase d) Enterokinase

46. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
    Assertion : Starch in the chyme is hydrolysed by pancreatic amylase into glucose molecules
    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 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.

47. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
    Assertion: Caecum is a small blind sac which hosts some symbiotic microorganisms
    Reason : Escherichia coli in return produces vitamin B12, vitamin K, thiamine and riboflavin.
    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.

48. Which of the following 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

49. 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) $\frac{2111}{2111}$

50. Pepsin converts proteins into_____
    a) rennin b) proteoses and peptones c) amino acids d) ipase

51. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
    Assertion: Fat is restricted in the diet of a person who has undergone an operation to remove gall bladder.
    Reason : 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 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.

52. A dental disease characterised by molting of teeth is due to the presence of a certain chemical element in drinking water. Which of the following is that element?
a) Mercury b) Chlorine c) Fluorine d) Boron

53. If pancreas is removed, the compound which remain undigested is____
a) carbohydrates b) fats c) proteins d) All of these

54. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
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 neural control for proper coordination of different parts
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

55. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
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 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

56. Match column I with column II and select the correct option from the given codes

Column I	**Column II**
A. Hepatic lobule	(i) Base of villi
B. Crypts of Leiberkuhn	(ii) Glisson's capsule
C. Sphincter of Oddi	(iv) Gall bladder
D. Cystic duct	(v) Hepato-pancreatic duct

a) A-(ii), B-(i), C-Iiv), D-(iii) b) A-(i), B-(ii), C-(iv), D-(iii) c) A-(i), B-(ii), C-(iii), D-(iv)

d) A-(iv), B-(iii), C-(ii), D-(i)

57. Most of the fat digestion occurs in _____ .
a) rectum b) stomach c) duodenum d) small intestine

58. Brunner's gland is present in
a) liver b) duodenum c) oesophagus d) stomach.

59. Which one of the following pairs is not correctly matched?
a) Vitamin B_{12} - pernicious anaemia b) Vitamin B_6 - Loss of appetire
c) Vitamin B_1 - Beri-beri d) Vitamin B_3 - Pellagra

60. 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 lowest pH.
(ii) The liver contains lipid emulsifier.
(iii) Large intestine secretes many enzymes.
(iv) All proteases function in the lumen of small intestine

a)	b)	c)	d)
(i) (ii) (iii) (iv)	(i) (ii) (iii) (iv)	(i) (ii) (iii) (iv)	(i) (ii) (iii) (iv)
T F T F	F T F T	F F T T	T T F F

61. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
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 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.

62. 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 $\rightarrow$ Absorption$\rightarrow$ Egestion
c) Ingestion $\rightarrow$ Digestion $\rightarrow$ Assimilation $\rightarrow$Absorption $\rightarrow$ Egestion
d) Ingestion $\rightarrow$Digestion $\rightarrow$ Absorption $\rightarrow$ Assimilation $\rightarrow$ Egestion

63. In man, the gall bladder is situated in_____ lobe of liver
a) left b) right c) caudate d) quadrate

64. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
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 assertion is true but reason is false

65. 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

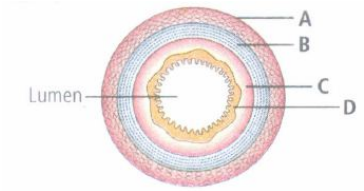
66. The food mixes thoroughly with the acidic gastric juice of the stomach by the churning movements of its muscular wall. What do we call the food then?
a) Bolus b) Chyme c) Succus entericus d) Chylomicrons

67. Which of the following has minimum pH?
a) Bile b) Gastric juice c) Saliva d) Pancreatic juice

68. 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

69. 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.

70. The given diagram represents the IS. of gut. Identify A, B, C and D.



a)

A	B	C	D
Serosa	Muscularis	Submucosa	Mucosa

b)

A	B	C	D
Muscularis	Serosa	Submucosa	Mucosa

c)

A	B	C	D
Serosa	Muscularis	Mucosa	Submucosa

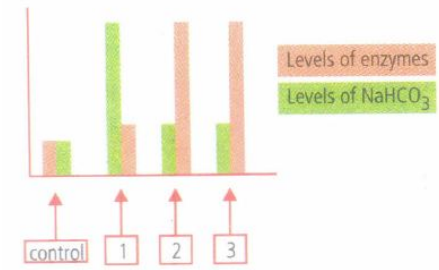
d)

A	B	C	D
Serosa	Submucosa	Muscularis	Mucosa

71. Calcium deficiency occurs in the absence of vitamin_____
a) D b) C c) E d) B

72. 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

73. Effect of some compounds (present in partially digested food) on pancreatic secretion is depicted in the bar graph. Compounds 1, 2 and 3 represent:



a)

1	2	3
Acid	Fat	Salt

b)

1	2	3
Salt	Peptone	Fat

c)

1	2	3
Acid	Fat	Peptone

d)

1	2	3
Pepsin	Acid	Fat

74. The enzyme enterokinase helps in conversion of_____
    a) caseinogen into casein b) Pepsinogen into pepsin c) Protein into polypeptides
    d) Trypsinogen into trypsin
75. Which one of the following is a matching pair of a substrate and its particular digestive enzyme?
    a) Maltose - Maltase b) Lactose - Rennin c) Starch - Steapsin
    d) Casein - Chymotrypsin
76. 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 endocrine gland
    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
77. Which of the following statements is not conect?
    a) Goblet cells are present in the mucosa of intestine and secrete mucus
    b) Oxyntic cells are present in the mucosa of stomach and secrete HCl
    c) Acini are present in the pancreas and secrete carboxypeptidase
    d) Brunner's glands are present in the submucosa of stomach and secrete pepsinogen
78. Match the two columns and select the correct among options given.

Column I	**Column II**
A. Biomacromolecules of food	(i) Alimentary canal and associated gland
B. Human digestive system	(ii) Embedded in jawbones
C. Stomach	(iii) Outer wall of visceral organs
D. Thecodont	(iv) Converted into simple substances
E. Serosa	(v) J-shaped bag like structure

    a) A-(ii), B-(i), C-(v), D-(iii), E-(iv) b) A-(iv), B-(i), C-(v), D-(ii), E-(iii)
    c) A-(i), B-(ii), C-(iii), D-(iv), E-(v) d) A-(i), B-(iii), C-(ii), D-(iv), E-(v)
79. 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
80. Consider the following four statements and select the correct option stating which ones are true (T) and which ones arefalse (F).
    (i) Salivary amylase hydrolyses proteins to amino acids.
    (ii) Pancreatic amylase hydrolyses polysaccharides to disaccharides.
    (iii) Enteropeptidase activates pepsinogen to pepsin.
    (iv) Trypsin coagulates the milk protein casein.

a)

(i)	(ii)	(iii)	(iv)
T	T	F	F

b)

(i)	(ii)	(iii)	(iv)
F	T	F	T

c)

(i)	(ii)	(iii)	(iv)
F	T	F	F

d)

(i)	(ii)	(iii)	(iv)
F	T	F	F

81. A lubricant mucin, in saliva is made up of
a) polyunsaturated fats b) actin and myosin c) glycoproteins d) phospholipids

82. For person suffering from high blood cholesterol, the physicians recommend_____
a) pure 'deshi ghee' or butter b) vegetable oil such as groundnut oil
c) red meat with layers of fats d) vanaspati margarine

83. The common bile duct in human 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.

84. Match column I with column II and select the correct option from the given codes.

	Column I (Sphincter)		Column II(location)
A.	Sphincter ani internus	(i)	Opening of hepatopancreatic ampulla into duodenum
B.	Cardiac sphincter	(ii)	Between duodenum and posterior stomach
C.	Sphincter of Oddi	(iii)	Guarding the terminal part of alimentary canal
D.	Ileocaecal sphincter	(iv)	Between oesophagus and anterior stomach
E.	Pyloric sphincter	(v)	Between small intestine and large intestine

a) A-(iii). B-(ii), C-(iv). D-(i), E-(v) b) A-(ii), B-(v), C-(i), D-(iv). E-(iii)
c) A-(iii), B-(iv), C-(i), D-(v), E-(ii) d) A-(iv), B-(iii), C-(i), D-(ii), E-(v)

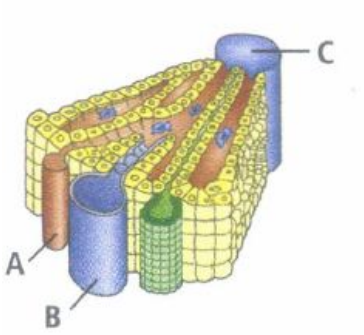
85. A baby boy aged two years is admitted to play school and passes through a dental check - up The dentist observed that the boy had twenty teeth. which teeth were absent?
a) canines b) pre-molars c) Molars d) Incisors

86. Lysozyme that is present in perspiration, saliva and tears,destroys _____ .
a) certain types of bacteria b) all viruses c) most virus-infected cells d) certain fungi

87. The hormone that stimulates the stomach to secrete gastric juice is____
a) gastrin b) renin c) enterokinase d) enterogasterone

88. 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 vessels. 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

89. 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 expressed 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.
c) Statement 1 is incorrect but statement 2 is correct.
d) Both statements 1 and 2 are incorrect.

90. Which of the following is not a salivary gland?
a) Sublingual b) Submaxillary c) Lacrimal d) Parotid

91. In man even though both air and food go through the pharynx, food does not normally enter the wind pipe because during swallowing of food
a) the epiglottis covers the glottis b) sphincter of Oddi closes the hepato-pancreatic duct
c) pyloric sphincter covers the opening of stomach into the duodenum d) none of these

92. Match the two columns and select the right one among options given.

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

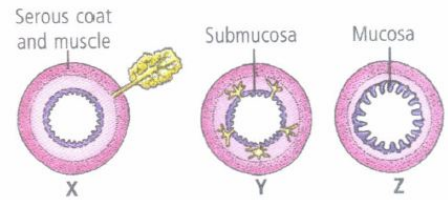
a) A-(i), B-(ii), C-(iii), D-(iv) b) A-(iv), B-(iii), C-(ii), D-(i) c) A-(iii), B-(i), C-(iv), D-(ii)
d) A-(ij), B-(iv), C-(i), D-(iii)

93. Inhibition of gastric and stimulation of gastric, pancreatic and bile secretions are controlled by hormones _____ .
a) gastrin, secretin, enterokinin and cholecystokinin
b) enterogasterone, gastrin, pancreozymin and cholecystokinin
c) gastrin, enterogasterone, cholecystokinin and pancreozymin
d) secretin, enterogasterone, gastrin and enterokinin

94. In the stomach, gastric acid is secreted by the:
a) Parietal cells b) Peptic cells c) Acidic cells d) Gastrin secreting cells

95. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice as:
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 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.

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



Classifythe following examples 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)

X		Y		Z	
(i)	(ii)	(v)	(iv)	(iii)	(vi)

b)

X		Y		Z	
(iii)	(iv)	(v)	(vi)	(i)	(ii)

c)

X		Y		Z	
(iii)	(v)	(i)	(ii)	(iv)	(vi)

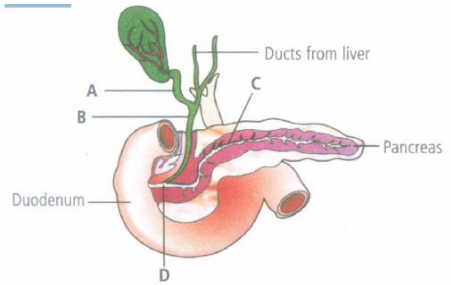
d)

X		Y		Z	
(i)	(ii),(v)	(iv)		(iii)	(vi)

97. Secretion of gastric juice is stopped by____
a) gastrin b) Pancreozymin c) cholecystokinin d) enterogasterone

98. One of the constituents of the pancreatic juice which is poured into the duodenum in humans is:
a) Trypsinogen b) Chymotrypsin c) Trypsin d) Enterokinase

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



a) A - Cysticduct, B- Common bile duct, C- Pancreatic duct, D - Hepatopancreatic duct
b) A - Common bile duct, B- Cysticduct, C- Pancreatic duct, D - Hepatopancreatic duct
c) A - Cystic duct, B - Bile duct, C - Hepatopancreatic duct, D - Pancreatic duct
d) A - Cystic duct, B - Pancreatic duct, C - Common bile duct, D - Hepatopancreatic duct

100. Fructose is absorbed into the blood through mucosa cells of intestine by the process called_____
a) active transport b) facilitated transport c) simple diffusion
d) co - transport mechanism

101. Emaciation of the body, thinning of limbs, skin becoming dry, thin and wrinkled, impairment of growth and development of brain and mental faculties in infants less than a year in age occurs in_____

a) Kwashiorkar b) marasmus c) constipation d) jaundice

102. Match the following structures with their respective location in organs

(A) crypts of Lieberkuhn	Pancreas
(B) Glisson's Capsule	Duodenum
(C) Islets of Langerhans	Small intestine
(D) Brunner's Glands	Liver

Select the correct option from the following

a) (ii),(iv),(i),(iii) b) (iii),(iv),(i),(ii) c) (iii),(ii),(i),(iv) d) (iii),(i),(ii),(iv)

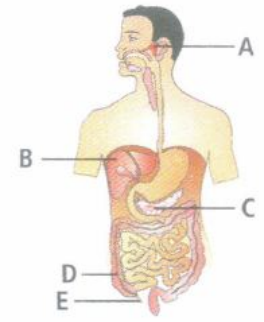
103. Which of the following guards the opening of hepatopancreatic duct into the duodenum?

a) Illeocaecal valve b) Pyloric sphincter c) Sphincter of Oddi d) Semilunar valve

104. The haemorrhagic disease of new born is caused due to the deficiency of_____

a) vitamin - A b) vitamin - B_1 c) vitamin - B_{12} d) vitamin - K

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



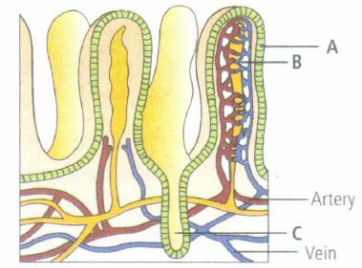
a) A-Parotid gland, B-Liver, C-Pancreas, D-Caecum, E-Vermiform appendix

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

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

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

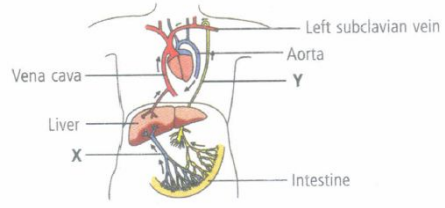
106. The diagram given below represents a section of small intestinal mucosa. Identify A, B and C.



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

107. Observe the given figure having arrows to illustrate the movement of absorbed food in the body. Select the correct option regarding it.



a)

Sugars		Amino acids		Fat/fatty acids/glycerol	
X	Y	X	Y	X	Y
✔	✗	✗	✗	✔	✔

b)

Sugars		Amino acids		Fat/fatty/glycerol	
X	**Y**	**X**	**Y**	**X**	**Y**
✔	✗	✔	✗	✗	✔

c)

Sugars		Amino acids		fat/fatty/glycerol	
X	Y	X	Y	X	Y
✗	✔	✗	✔	✗	✔

d)

Sugars		Amino acids		fat/fatty/glycerol	
X	Y	X	Y	X	Y
✔	✔	✗	✗	✔	✔

108. Which of the following is correct regarding jaundice?
a) Skin turns yellow b) Eyesturn yellow c) Liver gets affected d) All of these

109. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
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 false.
b) If both assertion and reason are true and reason is the correct explanation of assertion.
c) If both assertion and reason are true but reason is not the correct explanation of assertion
d) If assertion is true but reason is false.

110. Which one is correctly matched?
a) Vitamin E - Tocopherol b) Vitamin D-Riboflavin c) Vitamin B - Calciferol
d) VitaminA-Thiamine

111. Consider the following statements each with one or two blanks
(i) Trypsinogen is activated to trypsin by __(1)____.
(ii) Fatty acids and glycerol are absorbed into ____(2)___but glucose and amino acids are absorbed into ill.
Which one of the following options, 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) (c) (1) - enterokinase, (2) - blood capillaries
d) (d) (1) - chymotrypsinogen, (3) - lacteals

112. During absorption of carbohydrates in the blood the most rapidly transported monosaccharide is
a) glucose b) galactose c) fructose d) sucrose

113. Which one of the following correctly represents the normal adult human dental formula?
a) 3/3,1/1,3/2,1/1 b) 2/2,1/1,3/2,3/3 c) 2/2,1/1,2/2,3/3 d) 3/3,1/1,3/3,3/3

114. Hydrolytic enzymes which act on low pH are called as___
a) proteases b) a-amylases c) hydrolases d) peroxidases

115. The lining of intestinal wall from outside to inside is made up of
a) circular muscles $\rightarrow$ longitudinal muscles $\rightarrow$ mucosa $\rightarrow$ submucosa
b) longitudinal muscles $\rightarrow$ circular muscles $\rightarrow$ submucosa $\rightarrow$ mucosa

c) mucosa→ submucosa → circular muscles→ longitudinal muscles

d) submucosa→ longitudinal muscles → circular muscles→ mucosa

116. Where is protein digestion accomplished?

a) Stomach b) Ileum c) Rectum d) Duodenum

117. Which cells of 'Crypts of Leiberkuhn' secrete antibacterial lysozyme?

a) Argentaffin cells b) Paneth cells c) Zymogen cells d) Kupffer cells

118. Match column I with column II and select the correct option from the given codes

Column I	**Column II**
A. Goblet cells	(i) Antibacterial agent
B. Lysozyme	(ii) Mucus
C. Saliva	(iii) HCl
D. Oxyntic cells	(iv) Sublingual gland

a) A-(iii), B-(i), C-(iv), D-(ii) b) A-(i), B-(iii), C-(iv), D-(ii) c) A-(ii), B-(iii), C-(i), D-(iv)

d) A-(ii), B-(i), C(iv), D-(iii)

119. Duct leading from parotid gland and opening into vestibule is_____

a) Haversian duct b) Stenson's duct c) Wolffran duct d) Infra-orbital duct

120. Which one of the following is a fat-soluble vitamin and its related deficiency disease?

a) Retinol - Xerophthalmia b) Cobalamine - Beriberi c) Calciferol - Pellagra

d) Ascorbic acid - Scurvy

121. Which one of the following is a protein deficiency disease?

a) Eczema b) Cirrhosis c) Kwashiorkor d) Night blindness

122. Angiotensinogen is a protein produced and secreted by____

a) endothelial cells (lining the blood vessels) b) liver cells c) juxtaglomerular (JG) cells

d) macula densa cells

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

Statement 1 : Deglutition starts as a reflex and then 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

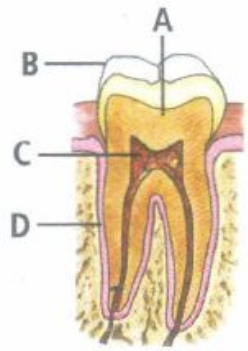
124. In the given figure of human tooth, some parts are labelled as A, B, C and D. Identify these parts and match them with their description given below.

(i) Contains dentine producing cells

(ii) 70% mineral matter, 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)

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

a)

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

b)

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

c)

Substrate	Enzyme	Site of secretion of enzyme	Products formed
Lipids	Lipase	Pancreas	Fat globules

d)

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

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

a) HCl is too dilute b) the epinthelial 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

127. Glisson's capsule is the characteristic feature of

a) mammals b) birds c) reptiles d) arthropods

128. 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

129. If you chew on a piece of bread long enough, it will begin to taste 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

130. Pancreas produces_____

a) three digestive enzymes and one hormone

b) three digestive enzymes and two hormones c) two digestive enzymes and one hormone

d) three digestive enzymes and no hormone

131. Which enzyme initiates protein digestion?
a) Carboxypeptidase b) Pepsin c) Trypsin d) Aminopeptidase

132. Choose the wrong enzymatic reaction.
a) $Sucrose \xrightarrow{Invertase} Glucose + Fructose$ b) $Lactose \xrightarrow{Lactase} Glucose + Fructose$
c) $Pepsinogen \xrightarrow{HCl} Pepsin$ d) $Maltose \xrightarrow{Maltase} Glucose + Glucose$

133. If pH of stomach is 1.6, then which enzyme will digest protein?
a) Amylase b) Trypsin c) Erypsin d) Pepsin

134. A gland not associated with the alimentary canal is
a) pancreas b) adrenal c) liver d) salivary glands.

135. Which of the following statements is/are incorrect?
(i) Absorption 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)

136. Read the following four statements (i) to (iv) with certain mistakes in two of them.
(i) Fructose is generally absorbed by simple diffusion.
(ii) The digestive wastes, solidified into coherent faeces in the rectum initiate an endocrinal action causing an urge or desire for its removal.
(iii) The food mixes thoroughly with the acidic gastric juice of the stomach by the churning movements of its muscular wall and is called the chyme.
(iv) The secretions of the brush border cells of the mucosa along with the secretions of the goblet cells constitute the succus entericus.
Which of the above two statements have mistakes
a) (i) and (ii) b) (ii) and (iii) c) (iii) and (iv) d) (i) and (iii)

137. Dental formula in human beings is
a) $\frac{3223}{3223}$ b) $\frac{2123}{2123}$ c) $\frac{1232}{1232}$ d) $\frac{2233}{2233}$

138. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
Assertion: Water and electrolytes are almost fully absorbed in the large intestine.
Reason: In large intestine, haustral contractions (slow segmenting 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 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

139. If for some reason our goblet cells are non functional, this will adversely affect _____ .
a) production of somatostatin b) secretion of sebum from the sebaceous glands
c) maturation of sperms d) smooth movement of food down the intestine

140. Match column I with column II and select the correct option from the given codes

Column I	Column II
A. Van Kupffer cells	(i) Islets of Langerhans
B. cells	(ii) Liver sinusoids
C. Oxyntic cells	(iii)Thyroid gland
D. Crypts of Lieberkuhn	(iv)Stomach
	(v)Small intestine

a) A-(iv), B-(v), C-(i), D-(ii) b) A-(iii), B-(i), C-(iv), D-(ii) c) A-(iv), B-(v), C-(iii), D-(i)

d) A-(ii), B-(i), C-(iv), D-(v)

141. The primary dentition in human differs from permanent dentition in not having one of the fotlowirig type of teeth_____

a) Premolars b) Molars c) Incisors d) Canine

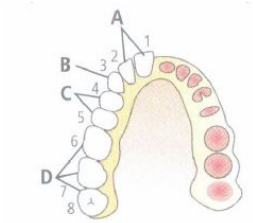
142. Conversion of milk to curd improves its nutritional value by increasing the amount of _____ .

a) vitamin-B_{12} b) vitamin - A c) vitamin - D d) vitamin - E

143. To which of the following family do folic acid and pantothenic acid belong?

a) Vitamin - C b) Vitamin - K c) Vitamin - A d) Vitamin - B omplex

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



a)

A	B	C	D
Incisors	Canine	Premolars	Molars

b)

A	B	C	D
Molars	Premolar	Canines	Incisors

c)

A	B	C	D
Premolars	Molar	Incisors	Canines

d)

A	B	C	D
Incisors	Canine	Molars	Premolars

145. In vertebrates lacteals are found in_____

a) ileum b) ischium c) oesophagus d) ear

146. The pH of succus entericus is

a) 6.6 b) 5.6 c) 2.0 d) 7.8

147. The contraction of gall bladder is due to____

a) gastrin b) secretin c) cholecystokinin d) enterogasterone

148. 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

149. Kwashiorkar occurs due to_____

a) deficiency of proteins and calories b) protein deficiency c) deficiency of calcium

d) deficiency of fats

150. In humans one of the constituents of the pancreatic juice which is poured into the duodenum is
a) trypsinogen b) chymotrypsin c) trypsin d) enterokinase.

151. During prolonged fasting, in what sequence are the following organic compounds used up by the body?
a) First proteins, next lipids and lastly carbohydrates
b) First carbohydrates, next fats and lastly proteins
c) First fats, next carbohydrates and lastly proteins
d) First carbohydrates, next proteins and lastly lipids

152. Which of the following processes is helped by bile salts?
a) $Nucleic \quad acid \xrightarrow{Nuclease} Nucleotides \xrightarrow{Nucleotidase} Nucleosides \xrightarrow{Nucleosidase} Sugars + bases$
b) $Sucrose \xrightarrow{Sucrase} Glucose + Fructose$ c) $Fats \xrightarrow{Lipase} Diglycerides \xrightarrow{Lipase} Monoglycerides$
d) $Proteins, peptones, proteoses \xrightarrow[Carboxypeptidase]{Trypsin/Chymotrypsin} Dipeptides$

153. Which of the following is incorrect regarding the given digestion and absorption of protein?
(a) The breakdown 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 amino acids by pancreatic carboxypeptidase and intestinal aminopeptidase.
(c) Small peptides consisting of two or three amino acids can diffuse through epithelial cell and broken down into carbon dioxide and ammonia which are released into the blood.
(d) None of these
a)
The breakdown 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 amino acids by pancreatic carboxypeptidase and intestinal aminopeptidase.

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

d) None of these

154. Stool of a person is whitish grey coloured due to malfunction of which of the following organ?
a) Pancreas b) Spleen c) Kidney d) Liver

155. Fill up the blanks in the following paragraph by selecting the correct option.
Small amounts of monosaccharides like glucose, amino acids and some of electrolytes 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)	(ii)	(iii)
facilitated transport	active transport	simple diffusion

b)

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

c)

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

d)

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

156. Pepsin acts in

a) basis medium b) acidic medium c) neutral medium d) all types of medium

157. Which of the following terms describe human dentition?

a) Pleurodont, Monophyodont, Homodont b) Pleurodont, Monophyodont, Homodont

c) Thecodont, Diphyodont, Homodont d) Pleurodont, Diphyodont, Heterodont

158. Which one of the following enzymes carries out the initial step in the digestion of milk in humans?

a) Pepsin b) Rennin c) Lipase d) Trypsin

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

a) Mouth b) Oesophagus c) Stomach d) Duodenum

160. Rennin acts on _____ .

a) milk changing casein into calciurn paracaseinate at 7.2 - 8.2 pH b) protein in stomach

c) fat in intestine d) milk changing casein iuto calcium paracaseinate at 1- 3 pH

161. The enzyme that is not present in succus entericus is:

a) Maltase b) Nucleases c) Nucleosidase d) Lipase

162. Match column I with column II and select the correct option from the given codes

Column I (Sphincter)	Column II (Location)
A.Peptic cells s	(i) Mucus
B.Oxyntic cells	(ii) Alkaline fluid
C. Goblet cells	(iii) Pro-enzymes
	(iv) HCl

a) A-(ii), B-(i), C-(iv) b) A-(iv), B-(iii), C-(ii) c) A-(iv), B-(i), C-(ii) d) A-(iii), B-(iv), C-(i)

163. 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

164. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
Assertion: Pancreas is a heterocrine gland.
Reason: 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 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.

165. 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.

166. The initial step in the digestion of milk in humans is carried out by_____
a) Lipase b) Trypsin c) Rennin d) Pepsin

167. Which of the following statements is incorrect about pancreas?
a) It is a 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

168. In frog, the surface of attachment of tongue is___
a) sphenoid b) palatine c) pterygoid d) hyoid apparatus

169. Which of the following statements is correct?
a) Goblet cells secrete pepsinogen b) Parietal cells secrete hydrochloric acid
c) Argentaffin cells secrete mucus. d) Chief cells secrete gastrin

170. Brunner's glands occur in_____
a) sub-mucosa of duodenum b) sub-mucosa of stomach c) mucosa of oesophagus
d) mucosa of ileum

171. One of the following is not a common disorder associated with digestive system.
a) Tetanus b) Diarrhoea c) Jaundice d) Dysentery

172. Where do certain symbiotic microorganisms normally occur in human body?
a) Caecum b) Oral lining and tongue surface c) Vermiform appendix and rectum
d) Duodenum

173. What will happen if the secretion of parietal cells of gastric glands is blocked with an inhibitor?
a) Gastric juice will be deficient in chymosin b) Gastric juice will be deficient in pepsinogen
c)
In the absence of HCl secretion, inactive pepsinogen is not converted into the active enzyme pepsin

d)

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

174. Which of the following gastric cells indirectly help in erythropoiesis?

a) Goblet cells b) Mucous cells c) Chief cell d) Parietal cells

175. The layer of cells that secrete enamel of tooth is_____

a) dentoblast b) amiloblast c) osteoblast d) odontoblast

176. Which one of the following vitamin can be synthesised by bacteria inside the gut?

a) B_1 b) C c) D d) K

177. Whartson's duct is associated with_____

a) sub-lingual salivary duct b) parotid salivary gland c) sub-maxillary salivary gland d) Brunner's glands

178. Match column I with column II and select the correct option from the given codes.

Column I (Types of cells)	**Column II (Secretions)**
A.Beta cells	(i) Lysozym
B.Mast cells	(ii) Mucus
C.Paneth cells	(iii) Histamine
D.Acinar cells	(iv) Insulin
	(v) Pancreaticenzymes

a) A-(iv), B-(ii), C-(i), D-(v) b) A-(v), B-(ii), C-(iii), D-(iv) c) A-(iv), B-(iii), C-(i), D-(v)

d) A-(ii), B-(iii), C-(i), D-(v)

179. One of the factors required for the maturation of erythrocytes is_____

a) vitamin - D b) vitamin - A c) vitamin - B_{12} d) vitamin - C

180. 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) Absorption 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

181. Which of the following pair is characterised by swollen lips, thick pigmented skin of hands and legs and irritability?

a) Thiamine - Beri-beri b) Protein - Kwashiorkor c) Nicotinamide - Pellagra

d) Iodine - Goitre

182. Emulsification of fat will not occur in the absence of_____

a) lipase b) bile Pigments c) bile salts d) pancreatic juice

183. Duodenum has characteristic Brunner's gland which secrete two hormones called_____

a) Kinase, estrogen b) Secretin, cholecystokinin c) Prolactin, parathormone

d) Estradiol, progesterone

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

a) action of ptyalin on starch is enhanced b) action of ptyalin on starch is reduced

c) action of ptyalin on starch is unaffected d) action of ptyalin on starch stops

185. Select the correct match of the digested products in humans given in column I with their absorption site and mechanism in column II

a)

Column I	Column II
Glycine, glucose	Small intestine, active absorption

b)

Column I	Column II
Fructose, Na	Small intestine, passive absorption

c)

Column I	Column II
Glycerol, fatty acids	Duodenum, move as chylomicrons

d)

Column I	Column II
Cholesterol, maltose	Large intestine, active absorption

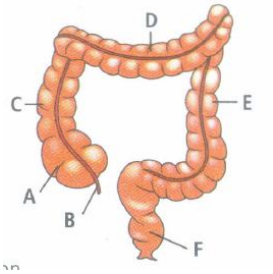
186. The hepatic portal vein drains blood to liver from____

a) Stomach b) Kidneys c) Intestine d) Heart

187. The vitamin-C or ascorbic acid prevents____

a) rickets b) pellagra c) scurvy d) antibody synthesis

188. 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, C - Ascending colon, D - Transverse colon, E - Descending colon, F - Sigmoid colon

b)

A - Sigmoid colon, B - Vermiform appendix, C - Descending colon, D - Transverse colon, E - Ascending colon, F - Caecum

c)

A - Sigmoid colon, B - Vermiform appendix, C - Ascending colon, D - Transverse colon, E - Descending colon, F - Caecum

d)

A - Caecum, B - Vermiform appendix, C - Sigmoid colon, D - Ascending colon, E - Transverse colon, F - Descending colon

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

(i) $\text{Trypsinogen} \xrightarrow{?} \text{Trypsin}$

(ii) $\text{Caesin} \xrightarrow{?}$ Paracasein + Whey proteins

(iii) RNA $\xrightarrow{?}$ Ribonucleotides

(iv) Triglycerides $\xrightarrow{?}$ Fatty acids + Glycerol

a)

(i)	(ii)	(iii)	(iv)
Enterocrinin	Pepsin	Trypsin	Lactase

b)

(i)	(ii)	(iii)	(iv)
Rennin	Enterokinase	Deoxyribo-nuclease	Lipase

c)

(i)	(ii)	(iii)	(iv)
Carboxy-peptidase	Pepsin	Chymotrypsin	Dextrinas

d)

(i)	(ii)	(iii)	(iv)
Enterokinase	Rennin	Ribonuclease	Lipase

190. Which of the following are the causes of indigestion?
a) Anxiety b) Food poisoning c) Over eating d) All of these

191. Match column I with column II and select the correct option from the given codes.

Column I	Column II
A. Mucous neck cells	(i) HCl, Intrinsic factor
B. Peptic/Chief cells	(ii) Mucus
C. Parietal/Oxyntic cells	(iii) Pepsinogen

a) A-(ii), B-(iii), C-(iv) b) A-(iii), B-(ii), C-(i) c) A-(i), B-(ii), C-(iii) d) A-(ii), B-(i), C-(iii)

192. Identify the correct statement with reference to human digestive system_____
a) Ileum is a highly coiled part b) Vermiform appendix arises from duodenum
c) Ileum opens into small intestine d) Serosa is the innermost layer of the alimentary canal.

193. Which of the following is mismatched?
a) Vitamin-K - Beri-beri b) Vitamin-D - Rickets c) Vitamin-C - Scurvy
d) Vitamin-A - Xerophthalmia

194. Lactose is composed of_____
a) glucose + fructose b) glucose + glucose c) glucose + galactose
d) fructose + galactose

195. Which one of the following is the correct matching of the site of action on the given substrate, the enzyme acting upon it and the end product?
a) Duodenum: Triglycerides Monoglycerides
b) Small intestine: Starch Disaccharide (Maltose) c) Small intestine; Proteins Amino acids
d) Stomach: Fats Micelles

196. 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

197. Release of pancreatic juice is stimulated by_____
a) enterokinase b) cholecystokinin c) trypsinogen d) secretin

198. Which one of the following types of cells and their secretion is correctly matched?
a) Oxyntic cells - a secretion with pH between 2.0 and 3.0
b) Alpha cells of islets of Langerhans - secretion that decreases blood sugar level
c) Kupffer cells - a digestive enzyme that hydrolyses nucleic acids d) None of these

199. In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as :
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 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.

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