EXERCISE-I (Conceptual Questions) **Build Up Your Understanding**

ALIMENTARY CANAL (MOUTH TO ANUS)

1. Parietal cells of mucosa in stomach secretes :
(1) Mucin (2) Pepsin (3) HCl (4) All of the above

2. Enamel of teeth is secreted by :-
(1) Ameloblast (2) Odontoblast (3) Osteoblast (4) Osteoclast

3. Dental formula of adolescent human being before 17 years :-
(1) $\frac{2122}{2122}$ (2) $\frac{2123}{2123}$ (3) $\frac{2102}{2102}$ (4) $\frac{2023}{1023}$

4. Which cells of mucous layer of stomach secrete pepsinogen
(1) Chief cell (2) Goblet cell (3) Parietal cell (4) Oxyntic cell

5. Innermost layer of mucosa is made up of columnar epithelium except :-
(1) Oesophagus (2) Duodenum (3) Intestine (4) Stomach

6. How many teeth in man grows twice in life
(1) 32 (2) 28 (3) 20 (4) 12

7. In human which teeth help in cutting ?
(1) Canine (2) Incisor (3) Molar (4) Premolar

8. Pulp cavity of teeth is lined by. :
(1) Odontoblast (2) Chondroblast (3) Osteoblast (4) Amyloblast

DIGESTIVE GLANDS

9. In human being sphincter of Oddi is situated in:-
(1) Common bile duct (2) Ampulla of vater
(3) Main pancreatic duct (4) Common hepatic duct

10. Ptyalin is secreted by-
(1) Stomach (2) Salivary gland (3) Pancreas (4) Bile

11. Ptyalin, an enzyme work in saliva in -
(1) Alkaline medium (2) almost neutral medium
(3) Acidic medium (4) all media

12. In pancreas, pancreatic juice and hormone are secreted by-
(1) Islets of langerhans
(2) Cells of Acini and Islets of langarhans resp.
(3) Istets of langeshans and cells of Acius resp.
(4) None of these.

13. C-shaped widest part of intestine
(1) Pancreas (2) Liver (3) Duodenum (4) Thyroid

14. Which substance destroy the harmful bacteria-
(1) Cerumin (2) Chyme (3) HCl (4) Secretin

15. One of the following is not a constituent of saliva :-
(1) Bicarbonate (2) Lysozyme (3) Glucose (4) Immunoglobulin

16. What statement is wrong about bile ?
(1) Is necessary for fat digestion
(2) Is stored in the gall bladder
(3) Is important only for normal digestion of sugar
(4) None of above

17. Which of the following is a function of gall bladder :-
(1) Deamination (2) Bile storage
(3) Synthesis of plasma protein (4) Storage of fat soluble vitamin

18. Crypts of Leiberkuhn are found in between the villi. They secrete :
(1) Glucagon (2) Succus entericus
(3) Insulin (4) None

19. Parotid salivary glands are present :
(1) Below the tongue (2) Below the ears
(3) Below the eye orbits (4) In the angle between two jaws

20. Sinusoids are found in :
(1) Liver (2) Kidney (3) Heart (4) Blood

21. Specific cells found in liver are :
(1) Enterocyte cells (2) Beta cells (3) Hepatic cells (4) Islets of Langerhans

22. Cells of liver which act as phagocytes are :
(1) Dieter's cells (2) Kupffer's cells (3) Hensen cells (4) Aciner cells

PHYSIOLOGY OF DIGESTION AND OTHERS

23. Casein present in milk, which is-
(1) bacterium (2) sugar (3) protein (4) fat

24. Amylase enzyme acts on the -
(1) Starch (2) Protein (3) Fat (4) Cane sugar

25. Liver cells secrete-
(1) amylopsin (2) trypsin (3) lipase (4) bile and no enzyme

26. Peristaltic movements found in different parts of alimentary canal. In which one of these there is least peristalsis-
(1) Stomach (2) Duodenum (3) Rectum (4) Oesophagus

27. Milk protein is curdled into calcium paracaseinate by-

(1) Maltose (2) Rennin (3) Trypsin (4) lactose

28. The enzyme invertase hydrolyses-
(1) Glucose into sucrose (2) Sucrose into glucose and fructose
(3) Starch into maltose (4) Starch into sucrose

29. Amino acids are absorbed in-
(1) Blood capillaries of villi (2) Wall of rectum
(3) lacteals and blood capillaries of villi (4) lacteals of villi

30. Digestion of carbohydrate is affected by-
(1) Amylopsin (2) Lipase (3) Erepsin (4) Pepsin

31. Trypsin is secreted by-
(1) Pancreas (2) Stomach (3) Liver (4) Ileum

32. Proteins are broken down into amino acids in-
(1) Buccal cavity (2) Stomach (3) Intestine (4) Rectum

33. Which reserve food is consumed by man during starvation :-
(1) Fat (2) Protein (3) Glucose (4) Vitamin

34. Ptyalin cannot work in stomach, because it becomes-
(1) Inactive due to HCl (2) Inactive due to renin
(3) Inactive due to pepsin (4) None of these

35. What is the important function of bile-
(1) For digestion by emulsification of fats (2) Elimination of excretory products
(3) For digestion by enzymes (4) Co-ordination of digestive activities

36. Some proteolytic enzymes are-
(1) Trypsin, Erepsin, Pepsin (2) Amylase, Lipase, Zymase
(3) Ampylopsin, Steapsin, Ptyalin (4) Urease, Dehydrogenase, Zymase

37. Succus entericus is secreted by-
(1) Gastric glands (2) Islets of langerhans
(3) Crypts of lieberkuhn & Brunner's gland (4) Goblet cells

38. Glycogen is stored in-
(1) Blood (2) Liver (3) Lungs (4) Kidney

39. Chymotrypsin is-
(1) Proteolytic enzyme (2) Fat digestive enzyme
(3) Vitamin (4) Hormone

40. Emulsification of fats by bile takes place in-
(1) Duodenum (2) Liver (3) Stomach (4) Intestine

41. Absorption of digested food chiefly occurs in-

(1) Stomach (2) Colon (3) Small Intestine (4) Large Intestine

42. The enzyme trypsinogen is secreted from-
(1) Duodenum (2) Pancreas (3) Liver (4) Stomach

43. Enzyme pepsin acts upon food at a pH of about-
(1) 3 to split proteins (2) 2 to split carbohydrate
(3) 7 to change protein into peptones (4) 2 to change protein in amino acids

44. Our food mainly contains-
(1) Carbohydrates (2) Cellulose (3) Sucrose (4) Glucose

45. Which one is differ from the category of other three-
(1) Gastrin (2) Glucagon (3) Secretin (4) Ptyalin

46. A carbohydrate splitting enzyme is secreted by-
(1) Liver (2) Zymogen cells of gastric glands
(3) Spleen (4) Crypts of Lieberkuhn

47. Stomach is the main· site for the digestion of -
(1) Fats (2) Carbohydrate (3) Protein (4) All of these

48. The hormone involved in the discharge of pancreatic juice in mammal is called-
(1) Gastrin (2) Secretin (3) Secretin & CCK (4) Enterogasterone

49. Function of HCl in stomach is to-
(1) Kill micro-organism of food
(2) Facilitate absorption of food
(3) Dissolve hormones secreted by gastric glands
(4) Active trypsinogen to trypsin

50. Enzyme maltase in human gut acts on food at a pH of-
(1) More than 7to change starch into maltose.
(2) Less than 7 to change starch into maltose.
(3) More than 7 to change maltose into glucose.
(4) Less than 7 to change maltose into glucose.

51. Simple sugar of blood is-
(1) Dextrin (2) Lactose (3) Sucrose (4) Glucose

52. During prolonged starvation, body derives nutrition from storage of -
(1) Liver and adipose tissue (2) Spleen
(3) Liver and lungs (4) Subcutaneous fat and Pancreas

53. Enterokinase stimulates which of the following-
(1) Pepsinogen (2) Trypsin (3) Pepsin (4) Trypsinogen

54. Maximum digestion of food take place in -
(1) Stomach (2) Jejunum (3) Colon (4) Duodenum

55. Absence of which of these in bile will make fat digestion difficult-
(1) Cholesterol (2) Bile salts (3) Pigment (4) Acids

56. Pancreatic juice is released into-
(1) Duodenum (2) Ileum (3) Stomach (4) Jejunum

57. The enzyme that catalyse the changing of emulsified oils to fatty acids and glycerol is-
(1) Pepsin (2) Lipase (3) Amylase (4) Sucrose

58. Point out the odd one
(1) Rennin (2) Secretin (3) Calcitonin (4) Oxytocin

59. Pancreatic lipase acts upon-
(1) Glycogen (2) Triglycerides (3) Dissacharides (4) Polypeptides

60. Bile is formed in-
(1) Gall bladder (2) Liver (3) Spleen (4) Blood

61. Cholecystokinin is secretion of
(1) Duodenum that causes contraction of gall bladder
(2) Goblet cells of ileum stimulates secretion of succus entricus
(3) Liver and controls secondary sex characters
(4) Stomach that stimulates pancreas to release juice

62. Enzyme trypsinogen is changed to trypsin by
(1) Gastrin (2) Enterogastrone (3) Enterokinase (4) Secretin

63. Castle's intrinsic factor is connected with internal absorption of -
(1) Pyridoxine (2) Riboflavin (3) Thiamine (4) Cobalamine

64. Maximum number of enzymes occur in-
(1) Omnivorous (2) Herbivores (3) Carnivores (4) None of the above

65. Cholesterol is synthesized in-
(1) Brunner's gland (2) Liver (3) Spleen (4) Pancreas

66. Rennin acts on-
(1) Milk changing casein into calcium paracaseinate at 7.2 - 8.2 pH
(2) Proteins in stomach
(3) Fat in intestine
(4) Milk, changing casein into calcium paracaseinate at 1-3 pH

67. Lacteals take part in -
(1) Digestion of milk (2) Absorption of fat
(3) Digestion of lactic acid (4) None of the above

68. Muscular contraction of alimentary canal are-
(1) Circulation (2) Deglutition (3) Churning (4) Peristalsis

69. Fatty acids and glycerol are first absorbed by-
(1) Lymph vessels (2) Blood
(3) Blood capillaries (4) Hepatic portal Vein

70. During prolonged fasting-
(1) First fats are used up, followed by carbohydrate from liver and muscles, and protein in the end
(2) First carbohydrate are used up, followed by fat and proteins towards end
(3) First lipids, followed by proteins and carbohydrates towards end.
(4) None of the above

71. Which of the following is absorbed in ileum-
(1) Fat (2) Bile salts (3) Vit-K (4) Glucose

72. Which food substance is absorbed, without digestion-
(1) Carbohydrates (2) Proteins (3) Vitamins (4) Fats

73. Mucus is secreted by the :-
(1) Stomach (2) Duodenum (3) Large intestine (4) All of the above

74. Water absorption is mainly occur in:-
(1) Colon (2) Intestine (3) Gastrium (4) Appendix

75. Which of the following absorbed in proximal intestine :-
(1) Iron (2) Sodium (3) Bile salts (4) Vitamin B_{12}

76. Substances which are not related with hepatic portal circulation :-
(1) Amino acid (2) Fatty acid (3) Glucose (4) Fructose

77. Jaundice is a disorder of :
(1) Skin and eyes (2) Digestive system
(3) Circulatory system (4) Excretory system

78. Lactose composed of :-
(1) Glucose + galactose (2) Glucose + fructose
(3) Glucose + glucose (4) Glucose + mannose

79. If for some reason the parietal cells of the gut epithelium become partially non-functional, what is likely to happen ?
(1) The pH of stomach will fall abruptly
(2) Steapsin will be more effective
(3) Proteins will not be adequately hydrolysed by pepsin into proteoses and peptones
(4) The pancreatic enzymes and specially the trypsin and lipase will not work efficiently

80. In stomach after physical and chemical digestion food is called:-
(1) Chyme (2) Chyle (3) Amino acid (4) Bolus

81. Fully digested food reaches to liver by
(1) Hepatic portal vein (2) Hepatic artery

(3) Hepatic vein (4) All the above

82. A person who is eating rice. His food contains
(1) Cellulose (2) Starch (3) Lactose (4) Protein

83. In mammals, milk is digested by action of-
(1) Rennin (2) Amylase (3) Intestinal bacteria (4) Invertase

84. Stool of a person contain whitish grey colour due to malfunction of which type of organ:
(1) Pancreas (2) Spleen (3) Kidney (4) Liver

85. Which of the following is a dissacharide :
(1) Glucose (2) Fructose (3) Sucrose (4) Galactose

86. If all the peptide bonds of protein are broken, then the remaining part is :-
(1) Amide (2) Oligosaccharide (3) Polypeptide (4) Amino acid

87. Hydrolysis of lipid yields :-
(1) Fats (2) Fatty acids and glycerol
(3) Mannose and glycerol (4) Maltose and fatty acid

88. Glucose and galactose unite to form
(1) Maltose (2) Sucrose (3) Isomaltose (4) Lactose

89. Gastric enzyme pepsin acts only in' , acidic medium with in a limited pH concentration. It varies:
(1) 1.20 to 1.80 (2) 1.00 to 1.50 (3) 2.00 to 2.50 (4) 1.50 to 2.60

90. Stomach in vertebrates is the main site for digestion of :
(1) Proteins (2) Carbohydrates (3) Fats (4) Nucleic acids

91. The chief function of bile is to :
(1) Digest fat by enzymatic action (2) Emulsify fats for digestion
(3) Eliminate waste products (4) Regulate digestion of proteins

92. The toxic substance are detoxicated in the human body by:
(1) Lungs (2) Kidneys (3) Liver (4) Stomach

93. The end product of carbohydrate metabolism is :
(1) CO_2 and H_2O (2) NH_3 and CO_2 (3) NH_3 and H_2O (4) CO_2

94. The muscular contraction in the alimentary canal is known as :
(1) Systole (2) Diastole (3) Peristalsis (4) Spasm

95. End products of protein hydrolysis are :
(1) Mixture of amino acids (2) Sugars
(3) Peptides (4) 25 amino acids

96. Ptyalin is an enzyme of
(1) Salivary juice (2) Pancreatic juice (3) Intestinal juice (4) None of these

97. The hormone 'secretin' stimulates secretion of
(1) Pancreatic juice (2) Intestinal juice (3) Salivary juice (4) Gastric juice

98. Which one of the following amino adds is not foundin proteins ?
(1) Arginine (2) Ornithine (3) Aspartic acid (4) Tyrosine

99. Succus entericus is also called are:
(1) Gastric juice (2) Intestinal juice (3) Bile juice (4) Saliva

100. Just as hydrochloric acid is for pepsinogen, so is the:
(1) haemoglobin to oxygen (2) enterokinase to trypsinogen
(3) bile juice to fat (4) glucagon to glycogen

101. Where the lysozymes are found:
(1) In saliva and tears both (2) In tears
(3) In saliva (4) In mitochondria

102. The major site of protein breakdown to form free amino acids, is in the
(1) Kidney (2) Spleen (3) Intestine (4) Bone-marrow

103. Trypsin differs from pepsin because it digests:
(1) Carbohydrate in alkaline medium in stomach
(2) Protein, in alkaline medium in stomach
(3) Protein, in acidic medium of stomach
(4) Protein, in alkaline medium in duodenum

104. Pancreatic juice is:
(1) Alkaline in nature (2) Acidic in nature
(3) Neutral in nature (4) Both acidic and alkaline in nature

105. Bilirubin and Biliverdin are present in:
(1) Pancreatic Juice (2) Saliva (3) Bile juice (4) Intestinal juice

106. The amount of gastric juice secreted per day from man's stomach is about :
(1) 500 mi. to 1000 ml (2) 2000 ml to 3000 ml
(3) 100 ml to 500 ml (4) 10 ml to 15 ml

107. The function of enterogasterone hormone is:
(1) to control excretion
(2) to inhibit gastric juice secretion
(3) regulate the absorption of food
(4) to stimulate gastric glands to release gastric juice

108. What is the common passage for bile and pancreatic juices

(1) Ampulla of Vater (2) Ductus Choledochus
(3) Duct of Wirsung (4) Duct of Santorini

109. Pepsinogen is secreted from:
(1) argentaffin cells (2) goblet cells (3) chief cells (4) parietal cells

110. Cells of the pancreas is not digested by their own enzymes because :
(1) enzymes are secreted in inactive form (2) cells are lined by mucous membrane
(3) enzymes are released only when needed (4) none of the above

111. Secretin :
(1) Stimulates enzymes secretion by pancreas, inhibits acid secretion in stomach, stimulates gall bladder
(2) Stimulates bicarbonate secretion by pancreas, inhibits acid secretion in stomach, stimulates bicarbonate secretion by liver
(3) Stimulates acid secretion in stomach, potentiates action of CCK, inhibits intestinal movement
(4) Stimulates gall bladder, inhibits acid secretion in stomach, stimulates bicarbonate secretion by pancreas

112. Vitamins are -
(1) Inorganic substances and can't be synthesized by animals.
(2) Inorganic substances and can be synthesized by animals.
(3) Organic substances which cannot mostly be synthesized by animals.
(4) Organic substances which can mostly be synthesized by animals.

113. Which should not be eaten too much during hot months-
(1) Vitamins (2) Fats (3) Mineral salts (4) Proteins

114. To get ample supply of carbohydrates, one should eat-
(1) Meat (2) Gram (3) Carrots (4) Rice

115 . Protein are mainly required in the body for-
(l) Growth (2) Repair (3) Both of these (4) None of these

116. A person deficient in Rhodopsin (visual pigment) should take-
(1) Tomatoes (2) Radish (3) Carrot (4) Guavas

117. Rickets is caused by the deficiency of-
(1) Vit A (2) Vit C (3) Vit D (4) Vit B

118. Pernicious anaemia is caused by deficiency of vitamin-
(1) C (2) B_1 (3) B_{12} (4) B_6

119. Another substance of the category of glucose, sucrose and maltose is-
(1) Myoglobin (2) Starch (3) Amino acids (4) Haemoglobin

120. A person with bleeding gums should daily take-
(1) Milk (2) Carrots (3) Lemons (4) Butter

121. Rickets is a disease of which category-
(1) Infective disease (2) Deficiency disease
(3) Communicable disease (4) Inheritable disease

122. Thiamine is another name for-
(1) Vit B_2 (2) Vit A (3) Vit B_1 (4) Vit B Complex

123. Vit D is also called-
(1) Calciferol (2) Ascorbic acid (3) Retinol (4) Folic Acid

124. In mammals carbohydrate are stored in the form of-
(1) Lactic acid in muscles (2) Glycogen in liver and muscles
(3) Glucose in liver and muscles (4) Glycogen in liver and spleen

125. Which pairing is not correct-
(1) Vit D - Rickets (2) Vit K – Sterility
(3) Thiamine - Beri-Beri (4) Niacin - Pellagra

126. Bow- shaped legs iri children are due to deficiency of Vitamin-
(1) D (2) A (3) B (4) C

127. Beri-Beri, Scurvy and Rickets are respectively caused by deficiency of -
(1) B, D & C (2) B, C & D (3) D, B & A (4) A, D & C

128. Vit K is a required for-
(1) Change of Prothrombin to thrombin (2) Synthesis of Prothrombin
(3) Change of Fibrinogen to Fibrin (4) Formation of thromboplastin

129. Dermatitis, diarrhoea and dementia are seen in deficiency of :
(1) Thiamine (2) Riboflavin (3) Niacin (4) Foliate

130. The vitamin that is useful in cancer is vitamin:-
(1) A (2) B_{17} (3) C (4) All of these

131. Vitamin which induces maturation of R.B.C. :-
(1) B_1 (2) A (3) B_{12} (4) D

132. Which one is wrong pair :
(1) Scurvy – Vitamin C
(2) Rickets – Vitamin D
(3) Night blindness (Xerophthalmia) – Vitamin A
(4) Beriberi – Vitamin K

133. Which one correctly matched :
(1) Vit. E – T ocoferol (2) Vit D – Riboflavin
(3) Vit. B – Calciferol (4) Vit. A – Thiamine

134. Vitamin' - C is :

(1) Ascorbic acid (2) Citric acid (3) Phosphoric acid (4) Glutamic acid

135. Which one of the following is the correct matching of a vitamin, its nature and its deficiency isease :
(1) Vitamin K-Fat soluble-Beri-Beri (2) Vitamin A-Fat soluble-Beri-Beri
(3) Vitamin K-Water soluble-Pellagra (4) Vitamin A-Fat soluble-Night blindness

136. Scurvy disease is due to :
(1) Presence of h-factor in blood (2) Deficiency of vitamin E
(3) Virus (4) Deficiency of vitamin C

137. In adults the deficiency of vitamin D causes :
(1) Rickets (2) Beri-beri (3) Scurvy (4) Osteomalacia

138. Which of the following vitamin synthesise in animal body by bacteria :
(1) C (2) A (3) E (4) B_{12}

139. Marasmus disease is caused due to:
(1) Protein deficiency (2) Obesity
(3) Dwarfism (4) Deficiency of vitamins

140. Which of the following does not belong to vitamin B group:
(1) Riboflavin (2) Niacin
(3) Cyanocobalamine (4) Tocopherol

141. Certain B vitamins are :
(1) Enzymes (2) Co-enzymes (3) Hormone (4) Digestive substance

142. Deficiency of thiamine causes :
(1) Beri-beri (2) Rickets (3) Caries (4) Pellagra

143. Vitamin C is helpful in the:
(1) Formation of visual pigment (2) Growth of bones
(3) Treatment of pernicious anaemia (4) Wound healing

ANSWER KEY

EXERCISE-I (Conceptual Questions)

1.	(3)	**2.**	(1)	**3.**	(1)	**4.**	(1)	**5.**	(1)	**6.**	(3)	**7.**	(2)
8.	(1)	**9.**	(2)	**10.**	(2)	**11.**	(2)	**12.**	(2)	**13.**	(3)	**14.**	(3)
15.	(3)	**16.**	(3)	**17.**	(2)	**18.**	(2)	**19.**	(2)	**20.**	(1)	**21.**	(3)
22.	(2)	**23.**	(3)	**24.**	(1)	**25.**	(4)	**26.**	(3)	**27.**	(2)	**28.**	(2)
29.	(1)	**30.**	(1)	**31.**	(1)	**32.**	(3)	**33.**	(1)	**34.**	(1)	**35.**	(1)
36.	(1)	**37.**	(3)	**38.**	(2)	**39.**	(1)	**40.**	(1)	**41.**	(3)	**42.**	(2)
43.	(1)	**44.**	(1)	**45.**	(4)	**46.**	(4)	**47.**	(3)	**48.**	(3)	**49.**	(1)
50.	(3)	**51.**	(4)	**52.**	(1)	**53.**	(4)	**54.**	(4)	**55.**	(2)	**56.**	(1)
57.	(2)	**58.**	(1)	**59.**	(2)	**60.**	(2)	**61.**	(1)	**62.**	(3)	**63.**	(4)
64.	(1)	**65.**	(2)	**66.**	(4)	**67.**	(2)	**68.**	(4)	**69.**	(1)	**70.**	(2)
71.	(2)	**72.**	(3)	**73.**	(4)	**74.**	(2)	**75.**	(1)	**76.**	(2)	**77.**	(2)

78.	(1)	**79.**	(3)	**80.**	(1)	**81.**	(1)	**82.**	(2)	**83.**	(1)	**84.**	(4)
85.	(3)	**86.**	(4)	**87.**	(2)	**88.**	(4)	**89.**	(4)	**90.**	(1)	**91.**	(2)
92.	(3)	**93.**	(1)	**94.**	(3)	**95.**	(1)	**96.**	(1)	**97.**	(1)	**98.**	(2)
99.	(2)	**100.**	(2)	**101.**	(1)	**102.**	(3)	**103.**	(4)	**104.**	(1)	**105.**	(3)
106.	(2)	**107.**	(2)	**108.**	(1)	**109.**	(3)	**110.**	(1)	**111.**	(2)	**112.**	(3)
113.	(2)	**114.**	(4)	**115.**	(3)	**116.**	(3)	**117.**	(3)	**118.**	(3)	**119.**	(2)
120.	(3)	**121.**	(2)	**122.**	(3)	**123.**	(1)	**124.**	(2)	**125.**	(2)	**126.**	(1)
127.	(2)	**128.**	(2)	**129.**	(3)	**130.**	(4)	**131.**	(3)	**132.**	(4)	**133.**	(1)
134.	(1)	**135.**	(4)	**136.**	(4)	**137.**	(4)	**138.**	(4)	**139.**	(1)	**140.**	(4)
141.	(2)	**142.**	(1)	**143.**	(4)								