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Biology Grade 10 — Chapter 1

Digestive System

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Independent practice MCQs from the supplied Class 10 Biology notes pack. Total: 50 questions.

A. Important / Main Topics

1. What is the taking in of food called?

(A) Ingestion
(B) Digestion
(C) Absorption
(D) Assimilation

Correct Answer: A

Explanation: Ingestion is the process of taking food into the body through the mouth.

2. What is the process by which undigested food is removed from the body called?

(A) Absorption
(B) Egestion
(C) Assimilation
(D) Digestion

Correct Answer: B

Explanation: Egestion is the removal of undigested food from the body through the anus.

3. Which of the following is the longest part of the alimentary canal?

(A) Oesophagus
(B) Stomach
(C) Small intestine
(D) Large intestine

Correct Answer: C

Explanation: The small intestine is the longest part of the alimentary canal, about 6–7 meters long.

4. What is the muscular tube that connects the pharynx to the stomach called?

(A) Trachea
(B) Larynx
(C) Bronchus
(D) Oesophagus

Correct Answer: D

Explanation: The oesophagus is a muscular tube about 25 cm long that leads from the pharynx to the stomach.

5. Which enzyme is present in saliva?

(A) Salivary amylase
(B) Pepsin
(C) Trypsin
(D) Lipase

Correct Answer: A

Explanation: Saliva contains salivary amylase, which digests starch into maltose.

6. What is the soupy mixture formed in the stomach called?

(A) Bolus
(B) Chyme
(C) Faeces
(D) Emulsion

Correct Answer: B

Explanation: By the churning action of the stomach wall, food gets mixed into a soupy mixture called chyme.

7. Which part of the alimentary canal is the main site of absorption?

(A) Stomach
(B) Oesophagus
(C) Small intestine
(D) Large intestine

Correct Answer: C

Explanation: Small intestine — this correctly answers the question.

8. What is the wave of muscular contraction that moves food through the alimentary canal called?

(A) Segmentation
(B) Churning
(C) Mastication
(D) Peristalsis

Correct Answer: D

Explanation: Peristalsis is the rhythmic wave of muscular contraction and relaxation that causes food to move through the alimentary canal.

9. Which gland produces bile?

(A) Liver
(B) Pancreas
(C) Gallbladder
(D) Salivary glands

Correct Answer: A

Explanation: The liver produces bile, which is stored in the gallbladder.

10. What is the function of bile?

(A) Digest proteins
(B) Emulsify fats
(C) Digest starch
(D) Absorb water

Correct Answer: B

Explanation: Bile emulsifies fats, breaking them into small droplets for lipase action.

11. Which part of the small intestine receives bile and pancreatic juice?

(A) Jejunum
(B) Ileum
(C) Duodenum
(D) Caecum

Correct Answer: C

Explanation: The duodenum receives bile from the gallbladder and pancreatic juice from the pancreas.

12. What is the finger-like projection in the small intestine called?

(A) Crypt
(B) Alveolus
(C) Nephron
(D) Villus

Correct Answer: D

Explanation: Villi are finger-like projections that increase the surface area for absorption in the small intestine.

13. Which vitamin is stored in the liver?

(A) Vitamin A
(B) Vitamin C
(C) Vitamin B
(D) Vitamin B12

Correct Answer: A

Explanation: Vitamin A — this correctly answers the question.

14. What is the removal of the amino group from amino acids called?

(A) Assimilation
(B) Deamination
(C) Absorption
(D) Egestion

Correct Answer: B

Explanation: Deamination is the removal of the amino group from amino acids, which occurs in the liver.

15. What is the condition called when stools become watery and frequent?

(A) Constipation
(B) Ulcer
(C) Diarrhoea
(D) Indigestion

Correct Answer: C

Explanation: Diarrhoea is characterized by watery stools and increased frequency of defecation.

16. Which of the following is NOT a part of the alimentary canal?

(A) Mouth
(B) Oesophagus
(C) Stomach
(D) Liver

Correct Answer: D

Explanation: The liver is an associated organ (digestive gland), not a part of the alimentary canal.

17. Which structure prevents food from entering the trachea during swallowing?

(A) Epiglottis
(B) Glottis
(C) Soft palate
(D) Larynx

Correct Answer: A

Explanation: The epiglottis is a flap of cartilage that covers the glottis during swallowing to prevent food from entering the trachea.

18. What is the role of hydrochloric acid in the stomach?

(A) Digest carbohydrates
(B) Activate pepsinogen to pepsin
(C) Emulsify fats
(D) Absorb water

Correct Answer: B

Explanation: Activate pepsinogen to pepsin — this correctly answers the question.

19. Which enzyme digests proteins in the stomach?

(A) Amylase
(B) Lipase
(C) Pepsin
(D) Trypsin

Correct Answer: C

Explanation: Pepsin is the enzyme in gastric juice that digests proteins into polypeptides and peptides.

20. Which of the following is NOT a function of the liver?

(A) Production of bile
(B) Storage of glycogen
(C) Deamination of amino acids

(D) Production of insulin

Correct Answer: D

Explanation: Insulin is produced by the pancreas, not the liver.

21. What is the function of the lacteal in a villus?

(A) Absorb glycerol and fatty acids
(B) Absorb simple sugars
(C) Absorb amino acids
(D) Absorb vitamins

Correct Answer: A

Explanation: The lacteal is a lymph capillary that absorbs glycerol and fatty acids.

22. Which part of the large intestine stores faeces temporarily?

(A) Colon
(B) Rectum
(C) Caecum
(D) Anus

Correct Answer: B

Explanation: Rectum — this correctly answers the question.

23. What is the main cause of constipation?

(A) Infection
(B) Excess water intake
(C) Lack of fibre in diet
(D) Overeating

Correct Answer: C

Explanation: Constipation is commonly caused by not enough fibre in the diet, lack of exercise, and not enough liquids.

24. Which of the following is a function of the large intestine?

(A) Digestion of proteins
(B) Production of bile
(C) Absorption of glucose
(D) Absorption of water

Correct Answer: D

Explanation: The large intestine absorbs water and some vitamins from the undigested material.

25. What is the function of goblet cells in the villus?

(A) Secrete mucus
(B) Absorb nutrients
(C) Produce enzymes
(D) Store vitamins

Correct Answer: A

Explanation: Goblet cells secrete mucus, which protects and lubricates the intestine.

B. Less Important / Secondary Topics

26. Which enzyme converts maltose to glucose?

(A) Maltase
(B) Lactase
(C) Sucrase
(D) Erepsin

Correct Answer: A

Explanation: Maltase — this correctly answers the question.

27. What is the role of enterokinase?

(A) Digests proteins
(B) Activates trypsinogen to trypsin
(C) Emulsifies fats
(D) Digests starch

Correct Answer: B

Explanation: Enterokinase is secreted by the intestinal lining and activates pancreatic trypsinogen into trypsin.

28. Which of the following is a symptom of diarrhoea?

(A) Hard stools
(B) Abdominal pain
(C) Watery stools
(D) Bloating

Correct Answer: C

Explanation: Diarrhoea is characterized by watery stools and increased frequency of defecation.

29. What is the treatment for diarrhoea?

(A) Laxatives
(B) Antibiotics
(C) Surgery
(D) ORS

Correct Answer: D

Explanation: ORS (oral rehydration solution) is given to replace lost water and electrolytes in diarrhoea.

30. Which part of the alimentary canal has no digestion?

(A) Oesophagus
(B) Mouth
(C) Stomach
(D) Small intestine

Correct Answer: A

Explanation: No digestion takes place in the oesophagus; food is only transported by peristalsis.

31. What is the function of the cardiac sphincter?

(A) Controls exit of chyme from stomach
(B) Controls entry of food into stomach
(C) Prevents food from entering trachea
(D) Absorbs water

Correct Answer: B

Explanation: The cardiac sphincter is between the oesophagus and stomach and controls the entry of food.

32. What is the function of the pyloric sphincter?

(A) Controls entry of food into stomach
(B) Prevents food from entering trachea
(C) Controls exit of chyme from stomach
(D) Absorbs water

Correct Answer: C

Explanation: The pyloric sphincter is between the stomach and duodenum and controls the exit of chyme.

33. Which of the following is NOT a function of the stomach?

(A) Storage of food
(B) Churning of food
(C) Digestion of proteins
(D) Absorption of glucose

Correct Answer: D

Explanation: Absorption of glucose — this correctly answers the question.

34. Which enzyme in pancreatic juice digests fats?

(A) Pancreatic lipase
(B) Pancreatic amylase
(C) Trypsin
(D) Erepsin

Correct Answer: A

Explanation: Pancreatic lipase — this correctly answers the question.

35. What is the cause of ulcer?

(A) Lack of fibre
(B) Infection with H. pylori
(C) Excess water intake
(D) Lack of exercise

Correct Answer: B

Explanation: Ulcer is commonly caused by infection with Helicobacter pylori bacteria, NSAIDs, excess acid, smoking, and stress.

36. A patient has a blocked bile duct. Which process will be most affected?

(A) Digestion of proteins
(B) Absorption of glucose
(C) Emulsification of fats
(D) Digestion of starch

Correct Answer: C

Explanation: Bile is needed for emulsification of fats. If the bile duct is blocked, fats cannot be emulsified properly.

37. If the pancreatic duct is blocked, which of the following will be affected?

(A) Only protein digestion
(B) Only fat digestion
(C) Only starch digestion
(D) Digestion of starch, proteins, and fats

Correct Answer: D

Explanation: Pancreatic juice contains amylase, lipase, and trypsinogen, which digest starch, fats, and proteins respectively.

38. A person has reduced mucous production in the stomach. What is the most likely consequence?

(A) Stomach wall damage by pepsin
(B) Reduced protein digestion
(C) Reduced starch digestion
(D) Reduced fat digestion

Correct Answer: A

Explanation: Mucous protects the stomach wall from digestion by pepsin. Reduced mucous can lead to stomach wall damage and ulcer.

39. Which of the following would decrease the rate of peristalsis?

(A) Increased circular muscle contraction
(B) Decreased circular muscle contraction
(C) Increased longitudinal muscle contraction
(D) Increased churning

Correct Answer: B

Explanation: Decreased circular muscle contraction — this correctly answers the question.

40. A patient has a tumour in the pyloric sphincter. What is the most likely effect?

(A) Food cannot enter the stomach
(B) Bile cannot enter the duodenum
(C) Chyme cannot leave the stomach
(D) Pancreatic juice cannot enter the duodenum

Correct Answer: C

Explanation: The pyloric sphincter controls the exit of chyme from the stomach. A tumour would block this exit.

41. Which of the following is the correct order of the parts of the small intestine?

(A) Duodenum → Ileum → Jejunum
(B) Jejunum → Duodenum → Ileum
(C) Ileum → Jejunum → Duodenum
(D) Duodenum → Jejunum → Ileum

Correct Answer: D

Explanation: The small intestine is divided into duodenum, jejunum, and ileum, in that order.

42. Which of the following is NOT a function of the liver?

(A) Production of digestive enzymes
(B) Synthesis of plasma proteins
(C) Destruction of old red blood cells
(D) Storage of fat-soluble vitamins

Correct Answer: A

Explanation: Production of digestive enzymes — this correctly answers the question.

43. A person has a diet deficient in fibre. What is the most likely consequence?

(A) Diarrhoea
(B) Constipation
(C) Ulcer
(D) Indigestion

Correct Answer: B

Explanation: Lack of fibre in the diet is a common cause of constipation.

44. Which of the following statements about the large intestine is correct?

(A) It is the main site of digestion
(B) It produces bile
(C) It absorbs water and some vitamins
(D) It absorbs glucose

Correct Answer: C

Explanation: It absorbs water and some vitamins — this correctly answers the question.

45. Which of the following is the correct pathway of urea from blood to urethra?

(A) Liver → Urea → Blood → Kidney → Nephron → Bowman's capsule → Glomerulus → PCT → Loop of Henle → DCT → Collecting duct → Ureter → Bladder → Urethra
(B) Liver → Urea → Blood → Kidney → Nephron → Glomerulus → Bowman's capsule → Loop of Henle → PCT → DCT → Collecting duct → Ureter → Bladder → Urethra
(C) Liver → Urea → Blood → Kidney → Nephron → Glomerulus → Bowman's capsule → PCT → DCT → Loop of Henle → Collecting duct → Ureter → Bladder → Urethra
(D) Liver → Urea → Blood → Kidney → Nephron → Glomerulus → Bowman's capsule → PCT → Loop of Henle → DCT → Collecting duct → Ureter → Bladder → Urethra

Correct Answer: D

Explanation: Urea is formed in the liver, carried by blood to the kidney, filtered in the glomerulus, and passes through Bowman's capsule, PCT, loop of Henle, DCT, collecting duct, ureter, bladder, and urethra.

46. Which of the following is a function of the villus?

(A) Increase surface area for absorption
(B) Produce bile
(C) Store glycogen
(D) Produce insulin

Correct Answer: A

Explanation: Villi are finger-like projections that increase the surface area for absorption in the small intestine.

47. A patient has a blocked lacteal. Which of the following will be affected?

(A) Absorption of glucose
(B) Absorption of glycerol and fatty acids
(C) Absorption of amino acids
(D) Absorption of vitamins

Correct Answer: B

Explanation: Absorption of glycerol and fatty acids — this correctly answers the question.

48. Which of the following is the correct sequence of the digestive process?

(A) Ingestion → Absorption → Digestion → Assimilation → Egestion
(B) Digestion → Ingestion → Absorption → Assimilation → Egestion
(C) Ingestion → Digestion → Absorption → Assimilation → Egestion
(D) Ingestion → Digestion → Assimilation → Absorption → Egestion

Correct Answer: C

Explanation: The correct sequence is ingestion, digestion, absorption, assimilation, and egestion.

49. Which of the following statements about the stomach is correct?

(A) It has three openings
(B) It is the main site of absorption
(C) It produces bile
(D) It is J-shaped and has cardiac and pyloric sphincters

Correct Answer: D

Explanation: The stomach is J-shaped, has cardiac and pyloric sphincters, and is the site of protein digestion and churning.

50. A person has a condition where the mucous lining of the stomach breaks down. What is the most likely diagnosis?

(A) Ulcer
(B) Diarrhoea
(C) Constipation
(D) Indigestion

Correct Answer: A

Explanation: Ulcer occurs when the mucous lining covering the stomach breaks down, and stomach tissues are damaged by gastric juice.