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6. NUTRITION IN ANIMALS

TEACHING TASK

1. The end product of fat digestion is -

A) Glucose B) Fatty acids & glycerol
C) Amino acids D) Alkaloids

Key: B

Solution**:** During fat digestion, lipase breaks triglycerides into fatty acids and glycerol. These smaller molecules can then be absorbed through the intestinal walls into the bloodstream.

2. The action of bile can be called -

A) Oxidation B Emulsification
C) Esterification D) Dehydrogenation

Key: B

Solution: Bile does not contain enzymes but helps in fat digestion by emulsifying fats. Emulsification means converting large fat globules into tiny droplets to increase the surface area for lipase action.

3. Which set is mixed with the food in small intestine ?

A) Saliva, gastric juice, bile
B) Gastric juice, bile, pancreatic juice
C) Bile, pancreatic juice, succus entericus
D) Bile, pancreatic juice and saliva

Key: C

Solution: In the small intestine, three secretions mix with food: bile from liver, pancreatic juice from pancreas, and intestinal juice (succus entericus) from intestinal glands. Together, they complete digestion of fats, proteins, and carbohydrates.

4. A good source of lipase is -

A) Saliva B) Gastric juice C) Bile D) Pancreatic juice

Key: D

Solution: The pancreas secretes pancreatic juice, which contains a high amount of lipase. This lipase is essential for breaking down fats into fatty acids and glycerol.

5. Enzymes required for digestion of fat is -

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

Key: D

Solution: Lipase is the specific enzyme that digests fats. It works best when bile has already emulsified the fats into smaller droplets, making digestion efficient.

6. Ptyalin is an enzyme present in -

A) Gastric juice B) Pancreatic juice
C) Intestinal juice D) Saliva

Key: D

Solution: Ptyalin, also called salivary amylase, is found in saliva and begins the digestion of starch in the mouth. It converts starch into maltose, a simpler sugar.

7. Which one does not produce any digestive enzyme?

A) Pancreas B) Liver C) Stomach D) Duodenum

Key: B

Solution: The liver produces bile, but bile has no enzymes and only helps with emulsification. Pancreas, stomach, and duodenum all secrete enzymes that help in digestion.

8. The number of salivary glands present in human beings is -

A) 5 pairs B) 4 pairs C) 3 pairs D) 2 pairs

Key: C

Solution: Humans have 3 pairs of salivary glands—parotid, submandibular, and sublingual. These glands produce saliva containing enzymes like ptyalin for starch digestion.

9. Largest gland in the body is -

A) Liver B) Pancreas C) Gastric gland D) Adrenal

Key: A

Solution: The liver is the largest gland and performs many functions—secreting bile, detoxifying chemicals, storing vitamins, and regulating metabolism. It is located in the upper right side of the abdomen.

10. Which of the following has no digestive enzyme?

A) Saliva B) Bile C) Gastric juice D) Intestinal juice

Key: B

Solution: Bile contains no digestive enzymes; instead, it contains bile salts that help emulsify fats. Saliva, gastric juice, and intestinal juice all have digestive enzymes that chemically break down food.

11. The main organ for digestion and absorption of food is -

A) large intestine B) small intestine
C) stomach D) liver

Key: B

Solution: The small intestine completes most digestion with the help of bile, pancreatic juice, and intestinal juice. It also has villi that absorb digested nutrients into the bloodstream.

12. Liver helps in -

A) Digestion of food B) Detoxification

C) Secretion D) All of these

Key: D

Solution: The liver helps in digestion by producing bile, detoxifies harmful substances in blood, and also performs secretion of various important biochemical substances. So, all functions are correct.

13. Food pipe is the another name of -

A) Oesophagus B) Bile duct

C) Salivary gland D) Pancreatic duct

Key: A

Solution: The oesophagus is the food pipe that carries swallowed food from the mouth to the stomach by peristaltic movements. It does not play a role in digestion but only transport.

14. Total number of cannines in permanent dental set of human is -

A) 4 B) 6 C) 2 D) 12

Key: A

Solution: Humans have 4 canines in total—one on each side of upper and lower jaws. These pointed teeth help in tearing and holding food.

15. Starch is digested by -

A) Peptidase B) Amylase C) Lipase D) Proteinase

Key: B

Solution: Amylase (such as salivary amylase and pancreatic amylase) converts starch into simpler sugars. Other enzymes like peptidase and lipase digest proteins and fats respectively.

16. Bile is produced by

A) Stomach B) Liver C) Gall bladder D) Pancreas

Key: B

Solution: The liver produces bile, which helps in emulsifying fats. The gall bladder only stores bile, not produces it.

17. The liver stores food in the form of

A) glucose B) glycogen C) albumen D) ATP

Key: B

Solution: Extra glucose is converted into glycogen in the liver. This stored glycogen can be converted back to glucose when needed by the body.

18. Vermiform appendix is a part of

A) alimentary canal B) nervous system

C) vascular system D) reproductive system

Key: A

Solution: The appendix is a small, finger-like structure attached to the large intestine of the alimentary canal. It has no major digestive function in humans.

19. Completion of digestion occurs in -

A) stomach B) large intestine C) liver D) small intestine

Key: D

Solution: The small intestine receives bile, pancreatic juice, and intestinal enzymes. These complete digestion of proteins, fats, and carbohydrates.

20. Wisdom teeth in man are

A) incisor B) canine C) last molars D) all of these

Key: C

Solution: Wisdom teeth are the third (last) molars that erupt in adulthood. They are the final set of molars in each jaw.

21. Digestion is

A) conversion of large food particles into small food particles

B) conversion of small food particles into large food particles

C) conversion of food into protoplasm

D) conversion of non-diffusible food particles into diffusible food

Key: D

Solution: Digestion converts complex, non-diffusible food molecules into simple, diffusible molecules so they can be absorbed into the bloodstream.

22. Muscular contractions of alimentary canal are

A) circulation B) deglutition C) peristalsis D) churning

Key: C

Solution: Peristalsis is the wave-like muscular movement in the food pipe and intestines that pushes food forward for digestion.

23. Which of the following regions of the alimentary canal of man does not secrete digestive enzyme?

A) Oesophagus B) Stomach C) Duodenum D) Mouth

Key: A

Solution: The oesophagus only transports food by peristalsis and does not secrete any digestive enzymes, unlike stomach, duodenum, and mouth.

24. The incisor tooth is meant for

A) biting and cutting B) chewing

C) munching and chewing D) munching

Key: A

Solution: Incisors are flat, sharp-edged teeth located in the front of the mouth. Their main function is biting and cutting food.

25. 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 helps in movement and absorption

Key: A

Solution: A bolus is the soft, round mass of food formed after chewing and mixing with saliva. It is then swallowed into the oesophagus.

26. Saliva has the enzyme

A) pepsin B) ptyalin C) trypsin D) rennin

Key: B

Solution: Saliva contains ptyalin (salivary amylase), which begins the digestion of starch into maltose in the mouth.

27. Curdling of milk in the stomach is due to the action of

A) pepsin B) rennin C) HCl D) renin

Key: B

Solution: Rennin (in infants) helps in curdling milk by converting soluble caseinogen into insoluble casein, aiding digestion. In adults, a similar action is partly assisted by acidity.

28. Chief function of HCl is
    A) to maintain a low pH to prevent growth of micro-organisms
    B) to facilitate absorption
    C) to maintain low pH to activate pepsinogen to form pepsin
    D) to dissolve enzyme secreted in stomach

Key: C

Solution: HCl maintains a low pH in the stomach to activate pepsinogen into pepsin. This acidic environment also helps in killing harmful microbes.

29. Bile is produced and stored by
    A) produced and stored by gall bladder
    B) produced and stored by liver
    C) produced in liver and stored in gall bladder
    D) produced in gall bladder and stored in liver

Key: C

Solution: Bile is produced in the liver and stored in the gall bladder until needed for emulsification of fats in the small intestine.

30. Ileum is
    A) first part of the small intestine
    B) middle part of the small intestine
    C) last part of the small intestine
    D) not a part of the small intestine

Key: B

Solution: The ileum is the last (middle-to-lower) part of the small intestine where absorption of digested food mainly occurs.

LEARNERS TASK

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1. Gastric juice is -
    A) Acidic B) Alkaline C) Neutral D) Slightly alkaline

Key: A

Solution: Gastric juice contains hydrochloric acid, making it strongly acidic. This acidity helps activate pepsinogen and kill harmful microorganisms.

2. Bile is produced and secreted by -
    A) Gall bladder B) Pancreas C) Spleen D) Liver

Key: D

Solution: The liver produces bile, which is later stored in the gall bladder. Bile helps emulsify fats for easier digestion.

3. The main function of intestinal villi is -
    A) Stimulate peristalsis
    B) Prevent antiperistalsis
    C) Provide large surface area of absorption
    D) Distribute digestive enzymes uniformly.

Key: C
Solution: Villi greatly increase the surface area of the small intestine, allowing efficient absorption of digested nutrients into the bloodstream.

4. Pepsin digests -

A) Protein B) Fat C) Carbohydrate D) Cellulose

Key: A
Solution: Pepsin is a proteolytic enzyme in the stomach that breaks down proteins into smaller peptides in an acidic medium.

5. Major function of HCl of gastric juice is -

A) Providing acidic medium for pepsin
B) Kill microoganisms
C) Dissolve food
D) Facilitate absorption of food

Key: A
Solution: HCl provides an acidic environment necessary to convert inactive pepsinogen into active pepsin. It also helps destroy harmful microbes present in food.

6. The end product of fat digestion is -

A) Glucose B) Fatty acids C) Amino acids D) Alkaloids

Key: B
Solution: Fats are broken down by lipase into fatty acids and glycerol. These smaller molecules can then be absorbed through the intestinal wall.

7. The action of bile can be called -

A) Oxidation B) Emulsification

C) Esterification D) Dehydrogenation

Key: B
Solution: Bile emulsifies fats, meaning it breaks large fat globules into tiny droplets. This increases the surface area for lipase to act.

8. Which set is mixed with the food in small intestine ?

A) Saliva, gastric juice, bile

B) Gastric juice, bile, pancreatic juice

C)Bile, pancreatic juice, succus entericus

D)Bile,pancreatic juice and saliva

Key: C
Solution: In the small intestine, food receives bile from the liver, pancreatic juice from the pancreas, and succus entericus (intestinal juice) from the intestinal glands.

9. A good source of lipase is -

A) Saliva B) Gastric juice C) Bile D) Pancreatic juice

Key: D

Solution: Pancreatic juice contains a large amount of lipase, the main enzyme nfor breaking down fats.

10. Enzymes required for digestion of fat is -

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

Key: D

Solution: Lipase is the enzyme that digests fats by converting them into fatty acids and glycerol.

11. Ptyalin is an enzyme present in -

A) Gastric juice B) Pancreatic juice
C) Intestinal juice D) Saliva

Key: D

Solution: Ptyalin (salivary amylase) is found in saliva and begins the digestion of starch in the mouth.

12. Which one does not produce any digestive enzyme?

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Solution: The liver produces bile, but bile contains no enzymes. Other organs like the pancreas, stomach, and duodenum do secrete digestive enzymes.

13. The number of salivary glands present in human beings is -

A) 5 pairs B) 4 pairs C) 3 pairs D) 2 pairs

Key: C

Solution: Humans have 3 pairs of salivary glands—parotid, submandibular, and sublingual—which produce saliva containing enzymes like ptyalin for starch digestion.

14. Largest gland in the body is -

A) Liver B) Pancreas C) Gastric gland D) Adrenal

Key: A

Solution: The liver is the largest gland in the human body, performing functions like bile secretion, detoxification, and metabolism regulation.

15. Which of the following has no digestive enzyme?

A) Saliva B) Bile C) Gastric juice D) Intestinal juice

Key: B

Solution: Bile contains no digestive enzymes; it only emulsifies fats. Saliva, gastric juice, and intestinal juice all contain enzymes.

16. The main organ for digestion and absorption of food is -

A) large intestine B) small intestine
C) stomach D) liver

Key: B

Solution: The small intestine completes most digestion and absorbs nutrients using villi and microvilli, which increase the surface area for absorption.

17. Liver helps in -

A) Digestion of food B) Detoxification
C) Secretion D) All of these

Key: D
Solution: The liver produces bile for digestion, detoxifies harmful substances, and secretes various important biochemical substances; hence all options are correct.

18. Food pipe is the another name of -

A) Oesophagus B) Bile duct
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Key: A
Solution: The oesophagus is a muscular tube that transports food from the mouth to the stomach by peristaltic movements.

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Key: A
Solution: Humans have 4 canines in total—one on each side of the upper and lower jaws, used for tearing food.

20. Starch is digested by -

A) Peptidase B) Amylase C) Lipase D) Proteinase

Key: B
Solution: Amylase (salivary and pancreatic) breaks down starch into simpler sugars like maltose, while peptidase digests proteins and lipase digests fats.

21. Bile is produced by -

A) Stomach B) Liver C) Gall bladder D) Pancreas

Key: B
Solution: Bile is produced by the liver and stored in the gall bladder. It helps in emulsification of fats in the small intestine.

22. The liver stores food in the form of

A) glucose B) glycogen C) albumen D) ATP

Key: B
Solution: Excess glucose is converted into glycogen in the liver for storage. When blood sugar is low, glycogen is converted back to glucose.

23. Vermiform appendix is a part of

A) alimentary canal B) nervous system
C) vascular system D) reproductive system

Key: A
Solution: The appendix is a small finger-like extension of the large intestine in the alimentary canal. It has no major digestive function in humans.

24. The hardest constituent of human tooth is

A) root B) pulp cavity C) dentine D) enamel

Key: D

Solution: Enamel covers the crown of the tooth and is the hardest tissue in the human body, protecting the inner dentine and pulp cavity.

25. Wisdom teeth in man are

A) incisor B) canine C) last molars D) all of these

Key: C

Solution: Wisdom teeth are the third molars that appear in adulthood at the back of the mouth. They are the last set of molars in humans.

26. Which reserve does a starving man first consume?

A) fat B) protein C) glycogen D) vitamin

Key: C

Solution: The body first uses glycogen stored in the liver and muscles to provide glucose for energy before using fat or protein reserves.

27. Digestive process in human beings is

A) intracellular B) extracellular C) both of these D) none of these

Key: B

Solution: Digestion in humans occurs extracellularly in the alimentary canal, where enzymes break down food outside the cells.

28. In man, a significant role in digestion of milk is played by

A) rennin B) intestinal bacteria

C) invertase D) pancreatic amylase

Key: A

Solution: Rennin (or chymosin) in the stomach curdles milk by converting caseinogen into insoluble casein, aiding protein digestion, especially in infants.

29. Alimentary canal is usually longer in

A) carnivores B) herbivores C) omnivores D) insectivores

Key: B

Solution: Herbivores have a longer alimentary canal to allow more time for digestion and absorption of plant materials, which are harder to break down.

30. In humans, digestion of protein starts in

A) Stomach B) Mouth C) Duodenum D) Ileum

Key: A

Solution: Protein digestion begins in the stomach, where pepsin breaks proteins into smaller peptides in an acidic environment.

31. Digested fat is absorbed in the intestine by

A) Blood capillaries B) Blood arteriole

C) Blood venule D) Lymph capillary

Key: D

Solution: Fatty acids and glycerol are absorbed into lymph capillaries called lacteals in the villi of the small intestine, rather than directly into blood capillaries.

32. Emulsification of fat is carried out by

A) Lipase B) Bile C) Gastric juice D) Intestine juice

Key: B

Solution: Bile salts emulsify fats into tiny droplets, increasing the surface area for lipase to act efficiently.

33. Incisors take part in

A) Grinding B) Tearing C) Cutting D) Crushing

Key: C

Solution: Incisors are front teeth with sharp edges used for cutting and biting food into smaller pieces.

34. Nutrition of Amoeba is

A) Holozoic B) Holophytic C) Saprophytic D) Parasitic

Key: A

Solution: Amoeba exhibits holozoic nutrition; it ingests solid food particles by forming pseudopodia and enclosing them in food vacuoles for digestion.

35. Proteolytic enzyme of pancreatic juice is

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

Key: B

Solution: Trypsin is the main proteolytic enzyme in pancreatic juice that breaks down proteins into smaller peptides in the small intestine.

36. Which is the correct sequence of parts in human alimentary canal?

A) Mouth $\rightarrow$ stomach $\rightarrow$ small intestine $\rightarrow$ oesophagus $\rightarrow$ large intestine

B) Mouth $\rightarrow$ oesophagus $\rightarrow$ stomach $\rightarrow$ large intestine $\rightarrow$ small intestine

C) Mouth $\rightarrow$ stomach $\rightarrow$ oesophagus $\rightarrow$ small intestine $\rightarrow$ large intestine

D) Mouth $\rightarrow$ oesophagus $\rightarrow$ stomach $\rightarrow$ small intestine $\rightarrow$ large intestine

Key: D

Solution: The correct sequence is mouth ? oesophagus ? stomach ? small intestine ? large intestine. Food passes in this order during digestion.

37. The inner lining of stomach is protected by one of the following from hydrochloric acid. Choose the correct one.

A) Pepsin B) Mucus

C) Salivary amylase D) Bile

Key: B

Solution: The stomach lining is coated with mucus, which protects it from being digested or damaged by hydrochloric acid and pepsin.