Coordination in Life Processes

Improve your learning

Q. 1. What do you mean by hunger pangs? (AS1)

Answer : When the glucose levels are low in the body, the body starts releasing many proteins, which also includes a Ghrelin that is secreted when the stomach is empty. Hunger pangs are the contractions in the stomach caused due to the hunger generating signals that reach the brain due to secretion of Ghrelin.

Q. 2. What are the organ systems involved in digestion of food which we eat? (AS1)

Answer : The organ systems involved in digestion of food we eat are:

a) Digestive system

b) Nervous system

c) Respiratory system

d) Circulatory system

Q. 3. Rafi said smell also increase our appetite can you support this statement. How? (AS1)

Answer : a) Flavour of the food is the combination of both the smell and taste of the food. While taste distinguishes between the chemical that provide the salty, sweet, bitter and other tastes, the combination of taste and smell provides the enriching flavor to the food.

b) This can be supported by the example that a person with severe cold/cough faces difficulty in identifying the flavours and often has a funny/bitter taste due to difficulty in perception of the smell of the food.

c) Hence, we can say that although taste provides the usual characteristic to the food, the enriching smell of the food can help in increasing the appetite.

Q. 4. Write a note on peristalsis and sphincter function in stomach. (AS1)

Answer : <u>Peristalsis</u>:

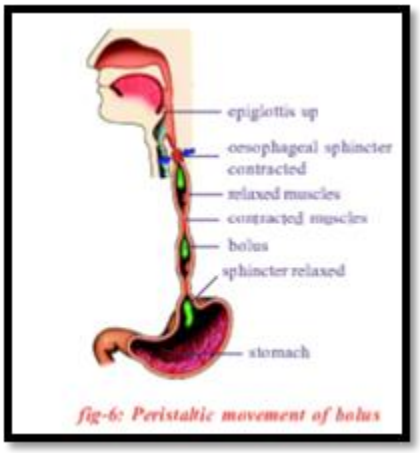


fig-6: Peristaltic movement of bolus

a) Peristalsis is the contraction and relaxation of the muscles of the stomach in a wave like motion that propels the food mass further n the alimentary canal.

b) In stomach, the peristaltic movements bring about the complete mixing of food with the digestive juices secreted such as HCl, Mucus and various enzymes.

c) It also helps in further movement of chyme from the food into the intestines.

Sphincter:

a) The pyloric sphincter present at the end of the stomach controls the flow of chyme from the stomach to the duodenum.

Q. 5. Observe the given part of the digestive system. What is it? What is its role during digestion? (AS1)

Answer : The given part of the digestive system is the large intestine. After the nutrients have been absorbed from the food in the small intestine, the digested mass reaches large intestine where water is reabsorbed from it. The remaining hard mass is then stored in rectum from where it is available to be passed out of the body through anus.

Q. 6 A. Give reasons. (AS1)

If we press tongue against the palate we can recognize taste easily.

Answer : If we press tongue against the palate we can recognize taste easily.

The tongue consists of tiny papillae with openings. Inside the openings, there are hundreds of taste sensitive cells. When the food is placed on the tongue, the food particles dissolve into the saliva and enter the openings. By pressing the tongue against the palate, we ensure the dissolved food getting into the openings quicker and hence we can taste the food much quickly and easily.

Q. 6 B. Give reasons. (AS1)

We can’t identify taste when food is very hot.

Answer : We can’t identify taste when food is very hot.

When too hot food is consumed, the receptors preset on the taste buds get damaged and hence are not able to take up the stimulus (here the taste) and send to the brain.

Q. 6 C. Give reasons. (AS1)

If glucose level falls in blood we feel hungry.

Answer : If glucose level falls in blood we feel hungry.

When the glucose levels are low in the body, the body starts releasing many proteins, which also includes a Ghrelin that is secreted when the stomach is empty. The secretion of Ghrelin causes the brain to get hunger generating signals.

Q. 6 D. Give reasons. (AS1)

Small intestine is similar to a coiled pipe.

Answer : Small intestine is similar to a coiled pipe.

The major function of small intestine is to absorb all the nutrients from the digested food. For this purpose, the food has to remain in contact with the walls of the intestine. The coiled structure provides maximum efficiency as it helps in retaining the food for the maximum amount of time, hence allowing complete absorption.

Q. 6 E. Give reasons. (AS1)

Urination increases when we take lot of fluids

Answer : Urination increases when we take lot of fluids

As more fluids are taken in, more water is absorbed by the large intestine. Since there is abundance of water in the body, urine is not concentrated and hence more urine is passed out.

Q. 6 F. Give reasons. (AS1)

The process of digestion goes on in a person whose central nervous system has been largely affected.

Answer : The process of digestion goes on in a person whose central nervous system has been largely affected.

Most of the functioning of the organs is either involuntary and under the control of autonomous nervous system such as salivation, peristaltic movements, etc. Hence, even when the CNS has been largely impacted, the process of digestion goes on in a person.

Q. 7 A. Write difference between the following. (AS1)

bolus – chyme

Answer :

S.no.	Bolus	Chyme
1.	Bolus is the slurry food mass that has been chewed and grinded by teeth in the buccal cavity and mixed with saliva	Chyme is the porridge like consistency food mass that has been mixed with the digestive juices, acid and mucus secreted in the stomach.
2.	The starch present in the food is broken down into sugars with the action of salivary amylase.	The food is partially digested here due to the action of various enzymes present in the digestive juices such as pepsin, lipases, etc.
3.	It is slightly alkaline in nature.	It is acidic in nature due to the secretion of HCl.

Q. 7 B. Write difference between the following. (AS1)

small intestine – large intestine

Answer :

S.no.	Small intestine	Large intestine
1.	Larger in length	Smaller in length
2.	Highly coiled with lots of bends	Slight bends
3.	Absorbs nutrients from the digested food	Absorbs water from the remaining undigested food.
4.	Secretes its own digestive juices	No secretion of digestive juices.
5.	Complete digestion of food takes place in duodenum.	No digestion takes place.
6.	No healthy microbes present.	Number of healthy microbe's present.

Q. 7 C. Write difference between the following. (AS1)

mastication – rumination

Answer :

S.no.	Mastication	Rumination
1.	Mastication is the breaking down of solid food into smaller pieces by the chewing and grinding action of the teeth.	It is the storing of quickly swallowed food in a pouch near to the stomach and bringing the bolus back to the mouth to then chew and grind properly.
2.	There is no storage pouch essential.	The animals store the swallowed food in a pouch near the stomach.
3.	There is a single way passage of the masticated food to the stomach.	The ruminants can bring and store the food again in the pouch till it is properly chewed.
4.	Seen in most of the animals. Including birds, humans.	Observed in certain ruminants such as cow, buffalo, etc.

Q. 7 D. Write difference between the following. (AS1)

propulsion – retropulsion

Answer :

S.no.	Propulsion	Retropulsion
1.	It is the movement of food from one part of the stomach to another due to the action of peristaltic movements.	Pushing of small quantity of chyme into the duodenum while pushing the rest of the chyme back into the stomach.

Q. 8. How can you say that mouth is a munching machine? (AS1)

Answer : a) The mouth is the place from where the food enters the digestive tract. Here the food is bitten, chewed and grinded into smaller form with the help of teeth.

b) There are four different sets of teeth present in the mouth having different functions.

c) The surface muscles of the jaw help in biting and grinding actions, and moving the jaw in all directions for proper mastication of food.

d) There are salivary glands present that secrete saliva. The tongue helps in properly mixing the grinded food with saliva to form a slippery concoction known as bolus.

e) Hence, we can say that the mouth is a munching machine.

Q. 9. What is mastication? Explain the role of different sets of teeth in this process. (AS1)

Answer : Mastication is the process of grinding, chewing and shredding of the food by the teeth in order to make it easier to swallow.

There are four different sets of teeth present in a human mouth. They are incisors, canines, pre-molars and molars.

a. Incisors: These are the first sets of teeth that encounter the food and are mostly used for biting.

b. Canines: These have sharp pointed edge meant for tearing and ripping of food. They are more prominent in flesh eating animals.

c. Pre-molars: These are flat surfaced teeth which are used for chewing ad grinding of the food.

d. Molars: The last set of teeth, mostly used for grinding the food thoroughly before passing it down to the food pipe.

Q. 10. During the journey of food from mouth to stomach through oesophagus, how does muscular system coordinate in this process? (AS1)

Answer : a) The food passes down from the mouth to the stomach via oesophagus. The food is in the form of slippery mass combined with saliva, called bolus.

b) The food pipe walls are made up of two different types of muscles- inner layer consists of circular muscles, while the outer layer consists of longitudinal muscles.

c) Contraction of the inner circular muscles results in narrowing of the oesophagus just behind the bolus, so it is squeezed forward in the food pipe.

d) While, the contraction of longitudinal muscles in front of the bolus widen the tube, resulting in shortening of that part of the food pipe.

e) These rhythmic contractions and relaxations bring in a wave like motion that propels the food bolus into the stomach by the action called peristalsis.

f) Peristalsis brings about the motion of the food all through the alimentary canal with the help of action of different types of muscles involved.

Q. 11. Is there any reason for the intestine to be coiled with many folds? In what way it is helpful during the process of digestion? (AS1)

Answer : The intestines are coiled with many folds so that it is able to retain the digested food for much longer time in order to absorb all the nutrients from it. The more the food stays, the longer time it gets for the nutrients to be absorbed by the villi present on the walls of the intestine.

Q. 12. What is the function of peristalsis in these parts? (AS1)

A. oesophagus B. stomach
C. small intestine D. large intestine

Answer : A. Oesophagus: In oesophagus, the peristaltic movements help in pushing the food forward into the stomach for further digestion.

B. Stomach: Peristaltic movements help in properly mixing the food mass with the enzymes and mucus secreted in the stomach to form chyme. It also helps in further moving the food mass into the duodenum.

C. Small intestine: It helps in mixing the chyme with the digestive juices secreted by liver, pancreas and intestines. It also helps in pushing the digested food further in the alimentary canal.

D. Large intestine: The peristaltic movements push the remaining undigested mass towards the end of the alimentary canal.

Q. 13. How can you justify the enteric nervous system as the second brain of the gut? (AS1)

Answer : a) The enteric nervous system consists of sheaths of neurons embedded into the walls of the alimentary canal.

b) It consists of around 100 million nerves which is more than either CNS or PNS.

c) The highly developed enteric nervous systems function efficiently by stimulating and coordinating all the steps of the digestion process.

d) Not only this, it is equipped with its own senses and reflexes which enables it to often function independent of the brain.

e) Since the gut consists of such a vast network of nerves and circuits, it is often regarded as the second brain of the gut.

Q. 14. Rajesh feels hungry upon seeing food. Sheela says no to food as she is not hungry. What makes Rajesh hungry and what suppresses Sheela's hunger? (AS1)

Answer : a. Hunger is closely related to the amount of glucose present in the blood.

b. When the level of glucose is low, a cascade of events leads to production of many proteins, including a hormone called Ghrelin.

c. Secretion of ghrelin takes place in the stomach when it's empty. Upon its secretion, tshe stomach starts having hungerpangs or contractions that generate hunger signals thsat reach the brain and give us the feeling of hunger.

d. When the glucose level is high, i.e. the stomach is full, another hormone called Leptin is secreted which suppresses the feeling of hunger.

Q. 15. How are taste and smell related? (AS1)

Answer : a) Flavor of the food is the combination of both the smell and taste of the food. While taste distinguishes between the chemical that provide the salty, sweet, bitter and other tastes, the combination of taste and smell provides the enriching flavor to the food.

b) When the aroma or smell of the food reaches the nasal receptors/ olfactory receptors, signals are generated as nerve impulses that are then sent to the brain. When the food is then tasted, both the signals are analyzed and hence different tastes are distinguished based on the smell.

c) This can be supported by the example that a person with severe cold/cough faces difficulty in identifying the flavours and often has a funny/bitter taste due to difficulty in perception of the smell of the food.

d) Hence, we can say that taste and smell are related.

Q. 16. List out the sphincter muscles of the food canal you have observed and give a brief description? (AS1)

Answer : a) Pyloric sphincter:

This sphincter is present in between the stomach and the duodenum and controls the passage of chyme out of the stomach and into the intestines.

b) Oesophaegeal sphincter: this sphincter is present at the end of oesophagus and beginning of stomach and allows the passage of bolus into the stomach. It is mostly closed in order to stop any flow of acid and digestive juices into the oesophagus.

c) Anal sphincter: this sphincter is present at the end of the anus and controls the passage of excreta out of the body.

Q. 17. What experiment should you perform to understand action of saliva on flour? Explain its procedure and apparatus that you followed. (AS3)

Answer : Aim- To understand the action of saliva on flour.

Apparatus- Test tubes, watch glass, dropper.

Materials required- flour, water, tincture of Iodine.

Procedure-

a) Take a test tube and fill it half with water. Dissolve a pinch of flour in it.

b) Divide the water into two equal parts in separate test tubes.

c) Mark them A and B.

d) Add a teaspoon of saliva in test tube A and nothing in test tube B. leave the test tube ndisturbed for about 45 minutes.

e) After 45 minutes, add a drop of tincture of iodine to both the test tubes.

Observation:

It is observed that the solution in test tube B turns deep blue black in colour whereas the test tube A solution is yellowish in colour.

Explanation:

The flour solution contains starch. On addition of tincture of iodine, the solution in test tube B readily gives a blue black colour. When saliva is added in test tube A and left undisturbed for some time, the salivary amylase present in the saliva breaks down the starch present in the solution to simpler carbohydrates. Since starch is no longer present, hence the solution does not give a blue black colour.

Result: This shows the action of salivary amylase on flour.

Q. 18. What happens if salivary ducts are closed? (AS2)

Answer : a) If the salivary ducts are closed, no saliva will be secreted in the mouth.

b) This may lead to the food mass still being hard and difficult to swallow, as well as lacking moisture. Passing such food mass down the food pipe might cause injury and lesions on the walls.

c) Saliva also contains salivary amylase which is an enzyme that breaks down large starch molecules present in the food into smaller sugar molecules and is the first step in the digestion of food.

d) Due to accumulation of saliva in the glands, they might swell up due to inflammation and cause pain.

e) Hence, closed salivary ducts can cause obstruction in the digestion process as well as cause harm to the organs involved.

Q. 19. If size and shape of small intestine is like oesophagus what will happen? (AS2)

Answer : a) Small intestine is specifically designed to absorb all the important nutrients from the digested food. The length and structure is totally complementary to the function it performs, i.e. absorption of nutrients from the digested food.

b) Oesophagus is much smaller in length along with the absence of villi and coils.

In order for proper absorption of nutrients from the chyme, the food has to be retained in the intestine for a longer period of time. The coils and folds in small instine play a crucial role in that.

d) If size and shape of small intestine is similar to that of oesophagus, the proper absorption of nutrients from the food will not take place.

Q. 20. Prepare a questionnaire to understand nervous coordination in digestion process. (AS2)

Answer : The questionnaire is given below:

i. What is meant by nervous system ?

ii. What are neurons?

iii. What is the role of nervous coordination in digestion process.

iv. What are the main cells of nervous system.

v. Which nerve mainly helps in the digestion of food in human body?

Q. 21. Suggest a simple experiment to prove the role of palate in recognizing taste. (AS3)

Answer : Aim: To prove the role of palate in recognizing taste.

Materials required: Sugar, stop watch

Procedure:

a) Take some sugar crystals and put them on the surface of the tongue, keeping the mouth open so that the tongue doesn't touch the palate.

b) Using stopwatch, record the time from the moment of placing the sugar on the tongue till the moment of recognizing the taste.

c) Note down the observations.

d) Repeat the experiment again, this time pressing the tongue against the palate and note down the observations.

Observations:

We will have observed that on pressing the tongue firmly against the palate, we recognize the taste quicker and more easily.

Explanation:

This is so because the tongue consists of tiny papillae with openings. Inside the openings, there are hundreds of taste sensitive cells. When the food is placed on the tongue, the food particles dissolve into the saliva and enter the openings. By pressing the tongue against the palate, we ensure the dissolved food getting into the openings quicker and hence we can taste the food much quickly and easily.

Result: Hence proved the role of palate in recognizing the taste.

Q. 22. Collect information related to feeling hunger from your school library and prepare a note on it. (AS4)

Answer : a. Hunger is closely related to the amount of glucose present in the blood.

b. When the level of glucose is low, a cascade of events lead to production of many proteins, including a hormone called Ghrelin.

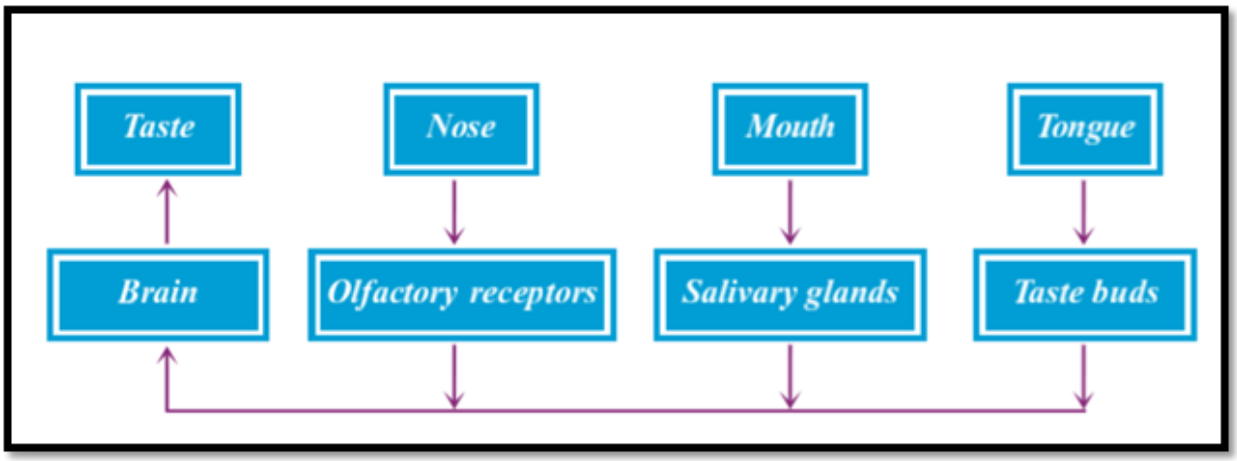
c. Secretion of ghrelin takes place in the stomach when it's empty. Upon its secretion, the stomach starts having hungerpangs or contractions that generate hunger signals that reach the brain and give us the feeling of hunger.

d. When the glucose level is high, i.e. the stomach is full, another hormone called Leptin is secreted which suppresses the feeling of hunger.

e. The sight and smell of the food can also determine hunger as it has been observed that we tend to prefer the food which is much more visually appalling and smells good.

Q. 23. Draw the block diagram showing sensation of taste from food material to brain. (AS5)

Answer :



Q. 24. Draw a neatly labeled diagram showing a peristaltic movement in oesophagus. Explain the importance of mucus on the walls of food pipe. (AS5)

Answer : Peristaltic movements in oesophagus:

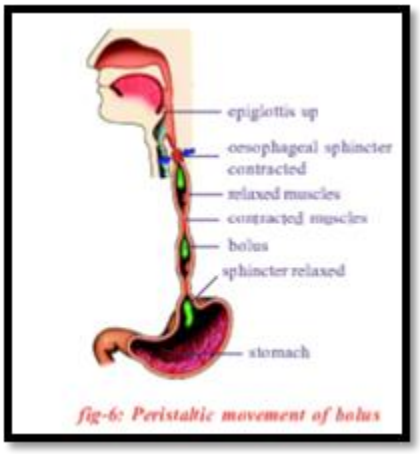


fig-6: Peristaltic movement of bolus

Importance of mucus on the walls of food pipe: The walls of the food pipe secrete a slippery substance called mucus. The mucus lining lubricates and protects the oesophageal walls from any damage and helps the bolus to easily slide down the food pipe.

Q. 25. Draw a schematic diagram of villus in small intestine. Explain how digestive system coordinate with circulatory system. (AS5)

Answer : Schematic diagram of villus in small intestine:

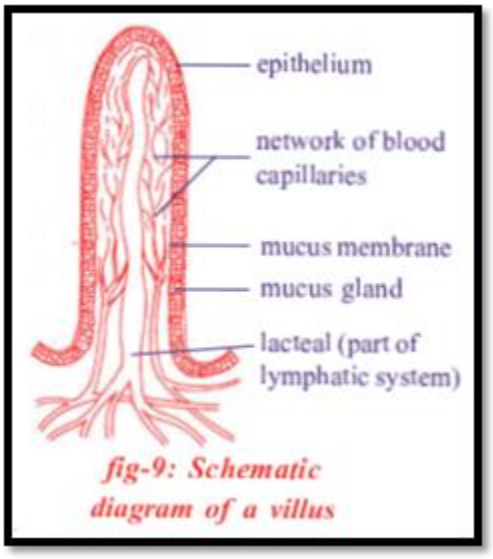
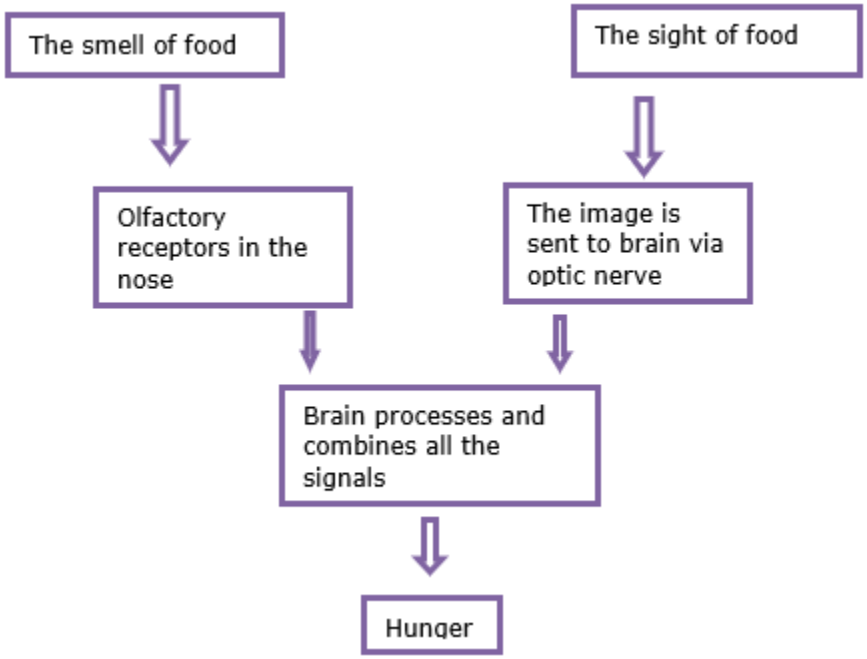


fig-9: Schematic diagram of a villus

Q. 26. The mere smell or sight of food stimulates hunger. Describe the process through a neat diagram? (AS5)

Answer :



Q. 27. With the help of diagram show the movement of food from mouth to the stomach. What muscles and nerves are involved in the movement of food and what is this action called as? (AS5)

Answer : a) The food moves down from the mouth to the stomach through oesophagus.

b) The food is pushed further in the oesophagus by the action of circular and longitudinal muscles that constitute the walls of the food pipe. These muscles work involuntarily in coordination to produce wave like movements in the food pipe and are under the control of autonomous nervous system.

c) This action is known as peristalsis.

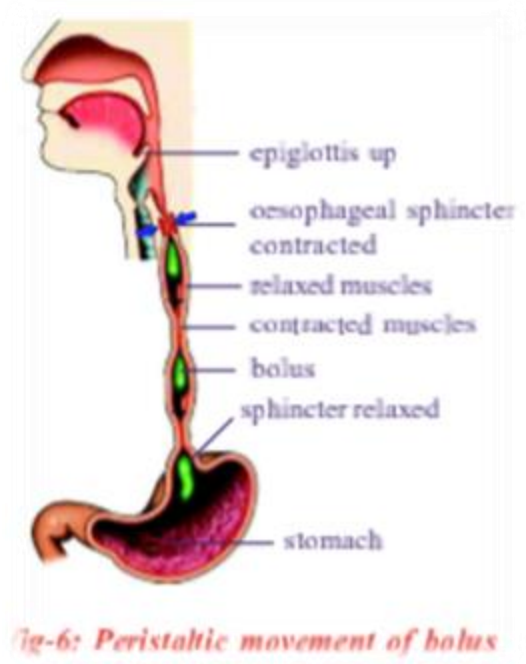
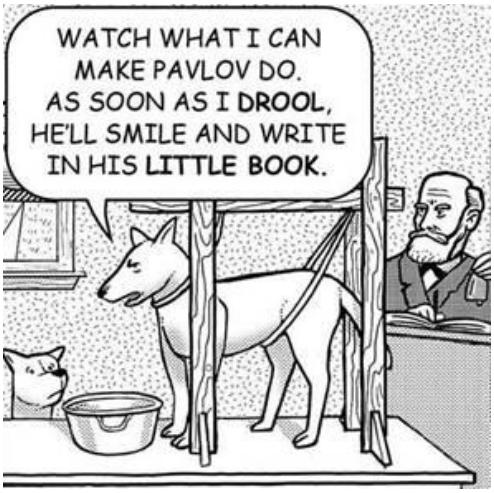


Fig-6: Peristaltic movement of bolus

The movement of food down the food pipe from mouth to stomach.

Q. 28. Prepare a cartoon on Pavlov's experiment with a suitable caption. (AS6)

Answer : The diagram is given below:



Q. 29. How do you appreciate stomach as a churning machine? How does this coordination go on? (AS6)

Answer : a) Stomach acts as a churning machine.

b) When the food enters the mouth, the nerves present in the cheeks and tongue send signals to the brain which stimulates the production of acid and gastric juices in the stomach.

c) This is all coordinated by the autonomous nervous system.

d) The stomach then receisves the olus trough the food pipe by continuous peristaltic movements.

e) The contractions of the stomach squeeze and mix the food with the acid and enzymes of the stomach.

f) The food when properly mixed and grinded, is further pushed on by the peristaltic contractions in the stomach into the duodenum under the action of ANS.

Q. 30 . There is a great variety in diversified life processes, express your feelings in the form of a poem. (AS7)

Answer : The poem is given below:

Life is a process

of discomforts and pain.

We should learn to handle

it all with courage and fain.

Remember the bliss

waiting for you ahead

so be courageous to listen

to what have been said

and learn more and more tricks

to tackle with the diversity of life.

Q. 31. Suggest any two important habitual actions to your friend while eating food, keeping in view of this chapter? (AS7)

Answer : Any two habitual actions while eating:

a. We should avoid talking while eating and chew the food properly. Chewing the food is the first step in the process of digestion where the solid food mass is broken and grinded down into smaller pieces and mixed with saliva to make a slippery mass. This also helps in the easy passage of the food, down the food pipe without hurting its walls.

b. We should avoid eating too much acidic food. This can cause neutralized or acidic environment in the mouth which is not suitable for the proper functioning of salivary amylase which requires an alkaline medium.

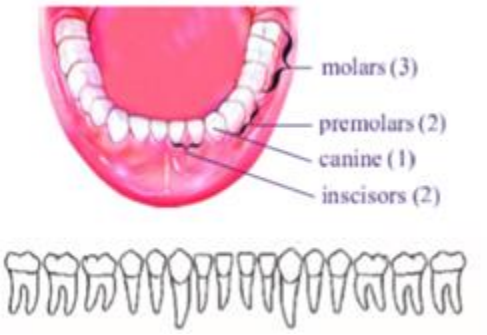
Fill in the blanks

Q. 1. Fill in the blank

3:2:1:2 is the ratio of our dentition. Here I represents _____.

Answer : 3:2:1:2 is the ratio of our dentition. Here I represents canines.

Explanation: There are 4 different types of teeth present with different functions. Incisors are for biting, canines for tearing and molars and premolars for chewing and grinding of food.



Q. 2. Fill in the blank

Large protein molecules are broken down in _____ of digestive track.

Answer : Large protein molecules are broken down in stomach of digestive track.

Explanation: Stomach secretes pepsinogen which is converted into pepsin on coming in contact with HCl. Pepsin breaks down large protein molecules into smaller ones.

Q. 3. Fill in the blank

_____is the strong acid which is secreted during digestion.

Answer : Hydrochloric acid (HCl) is the strong acid which is secreted during digestion.

Explanation: Hydrochloric acid is secreted in the stomach which is highly acidic and corrosive in nature. It is secreted to provide an acidic medium for the action of pepsin.

Q. 4. Fill in the blank

Olfactory receptors present in _____ trigger signals to brain.

Answer : Olfactory receptors present in nose trigger signals to brain.

Explanation: When the fumes of the food are received by the chemoreceptors present in the nose, also known as olfactory receptors, they send signals to the brain in the form of nerve impulses.

Q. 5. Fill in the blank

pH of saliva is _____ in nature.

Answer : pH of saliva is alkaline in nature.

Explanation: The saliva is slightly alkaline in nature as it helps in the proper functioning of salivary amylase.

Q. 6. Fill in the blanks with suitable words given below.

Fluctuation of hormone (A) _____ levels results in sensation of hunger and motivation of consuming food. When you feel your stomach is full and there is no need of food any more. Another hormone (B) _____ that gets secreted suppresses hunger. When we take food into the mouth it has to be chewed thoroughly. For this purpose the (C) _____ muscles help in chewing actions, while the (D) _____muscles of the jaw moves the jaw up, down, forward and backward during food mastication. The (E) _____nerve controls the muscles of the jaw. Under the action of (F) _____ nervous system Saliva is released by the salivary glands moistens the food to make chewing and swallowing easier. The salivary (G) _____ in the saliva breaks down the starch into sugars. As a result of chewing the food is transported into the oesophagus by the action of swallowing which is coordinated by the swallowing centre in the (H) _____ and the (I) _____. The tongue which is gustatory recognizes the taste and (J) _____ nerve plays an important role in sensation of taste.
Choose the right ones.
A. leptin, ghrelin gastrin secretin.
B. ghrelin leptin secretin gastrin.
C. deep muscles, surface muscles, circular muscles, striated muscles.
D. surface muscles, deep muscles, neck muscles, long muscle.
E. fifth cranial nerve, second cranial nerve, fifth facial nerve, spinal nerve.
F. central nervous system, peripheral nervous system autonomous nervous

system.
G. lipase, surcease, galactase, amy lase.
H. medulla oblongata, cerebrum, 8th spinal nerve, cranial nerve. 7th cranial nerve.
I. Pons varolii, brain stem, medulla oblongata, mid brain.
J. 6th cranial nerve, 5th cranial nerve, 10th cranial nerve, optic nerve.

Answer : Fill in the blanks with suitable words given below.

Fluctuation of hormone **(A) Ghrelin** levels results in sensation of hunger and motivation of consuming food. When you feel your stomach is full and there is no need of food any more. Another hormone **(B) Leptin** that gets secreted suppresses hunger. When we take food into the mouth it has to be chewed thoroughly. For this purpose, the **(C) circular** muscles help in chewing actions, while the **(D) surface** muscles of the jaw moves the jaw up, down, forward and backward during food mastication. The **(E) fifth cranial** nerve controls the muscles of the jaw. Under the action of **(F) autonomous** nervous system Saliva is released by the salivary glands moistens the food to make chewing and swallowing easier. The salivary **(G) amylase** in the saliva breaks down the starch into sugars. As a result of chewing the food is transported into the oesophagus by the action of swallowing which is coordinated by the swallowing centre in the **(H) medulla oblongata** and the **(I) brain stem**. The tongue which is gustatory recognizes the taste and **(J) 10th cranial** nerve plays an important role in sensation of taste.

Choose the correct Answer

Q. 1. Choose the correct answer

In which of the following situations you can taste quickly. ( )

A. Put sugar crystals on tongue
B. Put sugar solution on tongue
C. Press the tongue slowly against the palate
D. Swallow directly without grinding and shredding

Answer : The tongue consists of tiny papillae with openings. Inside the openings, there are hundreds of taste sensitive cells. When the food is placed on the tongue, the food particles dissolve into the saliva and enter the openings. By pressing the tongue against the palate, we ensure the dissolved food getting into the openings quicker and hence we can taste the food much quick.

Q. 2. Choose the correct answer

Peristalsis is because of ( )

A. Contraction of longitudinal muscles.
B. Contraction of circular muscles

C. Under control of autonomous nervous system
D. Digestive secretions.

Answer : the wave like motion of contraction and relaxation is under the control of the autonomous nervous system.

Q. 3. Choose the correct answer

Sphincter that helps in opening of stomach into duodenum ( )

A. Cardiac
B. Pyloric
C. Anal
D. Gastric

Answer : Pyloric sphincter is the sphincter present at the end of stomach and the beginning of duodenum. It governs the movement of chyme from the stomach to the intestine.

Q. 4. Choose the correct answer

Glucose and amino acids are absorbed through the following part of villus. ( )

A. epithelial cells
B. blood capillary
C. lymphatic vessel
D. all these

Answer : the epithelia cells form the outer lining of the villi. The nutrients such as glucose and amino acids are absorbed through this lining into the blood vessels.

Q. 5. Choose the correct answer

The region in brain portion that controls hunger signals ( )

A. medulla
B. diencephalon
C. cerebrum
D. mid brain

Answer : The hunger signals sent by the contraction of stomach due to secretion of ghrelin are recognized by Diencephalon in fore brain.

Q. 6. Choose the correct answer

Human organism is an internal combustion machine because of ( )

A. assimilation of energy from food
B. liberate CO_2during respiration
C. expel waste food at the end state digestion
D. secrete powerful digestive juices

Answer : the human organism utilizes the digested food to produce energy. Hence it can be considered as an internal combustion engine.