

SNS ACADEMY
REVISION 2 FULL PORTION BIO
10th Standard

Date : 04-Dec-23
Reg.No. :

Science

Time : 00:45:00 Hrs

Total Marks : 30

SECTION A

7 x 1 = 7

- 1) Photosynthesis is a
(a) Catabolic process (b) Parabolic process (c) Amphibolic process **(d) Photochemical process**
- 2) Peripheral nervous system constitutes:
(a) Neurons and cranial nerves **(b) Cranial and spinal nerves** (c) Backbone and brain
(d) Neurons and brain
- 3) Which among the following statements are true for sexual reproduction in flowering plants?
(i) It requires two types of gametes
(ii) Fertilisation is a compulsory event
(iii) It always results in formation of zygote
(iv) Offspring formed are clones
(a) (i) and (iv) (b) (i), (ii) and (iv) **(c) (i), (ii) and (iii)** (d) (i), (ii) and (iv)
- 4) Why are the testes located outside the abdominal cavity in scrotum
(a) Because sperm formation requires more spaces.
(b) Because sperm formation requires a lower temperature
(c) Because sperm formation requires a higher temperature. (d) None of the above.
- 5) Who have a perfect pair of sex chromosomes
(a) Girls only (b) Boys only (c) Both girls and boys (d) It depends on many other factors
- 6) Organism A recently came into existence while B was formed millions of years ago. What does this indicate?
(i) A is more efficient than B (ii) A is more complex than B.
(a) Only (i) (b) Only (ii) **(c) Both (i) and (ii)** (d) Either (i) or (ii)
- 7) Which of the following is an example of non-biodegradable substance?
(a) Virgin plastic **(b) Plastic** (c) Plants (d) Plant products

SECTION A1

2 x 1 = 2

8) **Assertion:** The motor areas control the movement of voluntary muscles.

Reason: Our hands and leg muscles are the examples of voluntary muscles.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false.

Answer : (b) If both assertion and reason are true but reason is not a correct explanation of assertion.

9) **Assertion:** Cells use chemical reactions to build copies of their DNA.

Reason: These copies are used to form new cells.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

Answer : (b). If both assertion and reason are true but reason is not a correct explanation of assertion.

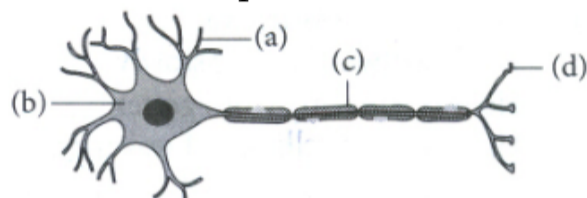
SECTION B

3 x 2 = 6

10) Why do fishes die when taken out of water?

Answer : Fishes are able to take oxygen which is dissolved in water, through their gills. The gills of a fish are not equipped to take in oxygen from air. Hence, when a fish is taken out of water, it is unable to inhale oxygen rich air and so dies quickly.

11) Label the parts of a neuron in the given figure.



- Answer :** (a) Dendrites
(b) Cyton
(c) Axon
(d) Axon terminals

12) In tobacco plant, the male gametes have twenty four chromosomes. What is the number of chromosomes in the female gamete? What is the number of chromosomes in the zygote?

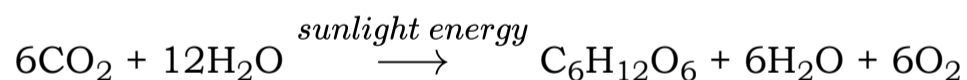
Answer : The number of chromosomes in the female gamete would be same as that in the male gamete, i.e. 24. The number of chromosomes in the zygote would be double the number in a gamete and hence it would be 48.

SECTION C

2 x 3 = 6

- 13) (i) Write the balanced chemical equation for the process of photosynthesis.
- (ii) When do the desert plants take up carbon dioxide and perform photosynthesis?

Answer : (i) Photosynthesis can be represented using a chemical equation. The overall balanced equation is



(ii) Desert plants open up their stomata during night and take in CO₂. Stomata remains closed during the day time to prevent the loss of water by transpiration. They store CO₂ in their cells until the sun comes out and they can carry on with photosynthesis during the day time.

14) What is natural selection?

Answer : According to Darwin, natural selection is the process which brings about evolution of new species of plants and animals. It consists of the following processes:

- (i) He noted that the size of population tends to remain constant despite the fact that more offsprings are produced than needed.
- (ii) Variations provide adaptations.
- (iii) The best adapted survive in the changing environment (survival of the fittest).
- (iv) Nature selects the best organisms with better adaptations and after many generations new species are formed (natural selection).

SECTION D

1 x 4 = 4

15) A group of ecologists studied and monitored the change in population of three animal species X, Y and Z over a period of ten years. During their research, they found that a new animal species W appeared in the area and its population was also monitored.

Answer : The alimentary canal is nearly 9 m long. It includes -

1. Mouth and Buccal Cavity: It is the upper most opening of human digestive system which gives passage if for ingestion of food. Buccal cavity takes in the food cuts the food into small pieces and chews them to make it soft or easy swallowing. Buccal cavity also has three pairs of salivary glands. These glands secrete saliva

which contains water, salts, mucin and an enzyme ptyalin. Ptyalin is salivary amylase which splits starch and glycogen into maltose.

2. Pharynx: It acts as a passage for the food from buccal cavity to oesophagus.

3. Oesophagus: It is a long and tubular structure which pushes the food rhythmically forward.

4. Stomach: It is a large organ which expands when food enters it. It serves four functions:

(i) Storage of food - Carbohydrates gets digested till the salivary enzyme ptyalin is destroyed by HCl, secreted in the stomach.

(ii) Churning of food - The stomach wall produces muscular contraction, for the food to get churned and to mix it thoroughly with gastric juice.

(iii) Partial digestion - There are three types of gastric juice in stomach namely HCl, protein digesting enzyme (pepsin) and mucus.

(iv) Exit of food - The stomach releases food into the small intestine in a controlled and regulated manner.

Functions of the Gastric Juices

(i) HCl - Makes the medium acidic, kills the germs present in the food.

(ii) Pepsin - Acts in acidic medium, breaks proteins into peptone.

(iii) Mucus - Protects the inner lining of the stomach from the action of the acid under normal conditions.

(iv) Gastric juice - Also contains some gastric lipase which partially breaks down lipids.

(v) Regulation of flow of food - Stomach regulates the flow of partially digested food into the small intestine.

5. Small intestine: It is the longest part of digestive system. It is a narrow tube divided into three parts

(i) duodenum

(ii) jejunum and

(iii) ileum. It is the site of the complete digestion of proteins, carbohydrate and fats. Duodenum receives the secretion of bile from bile duct and pancreatic juice from pancreatic duct.

Bile juice

(i) It is secreted by liver and stored temporarily in the gall bladder.

(ii) It has bile pigments and bile salts.

(iii) It has no enzymes and thus has no chemical action on food, but breaks down the fat molecules into small globules.

(iv) This process is called emulsification of fats. Pancreatic juice

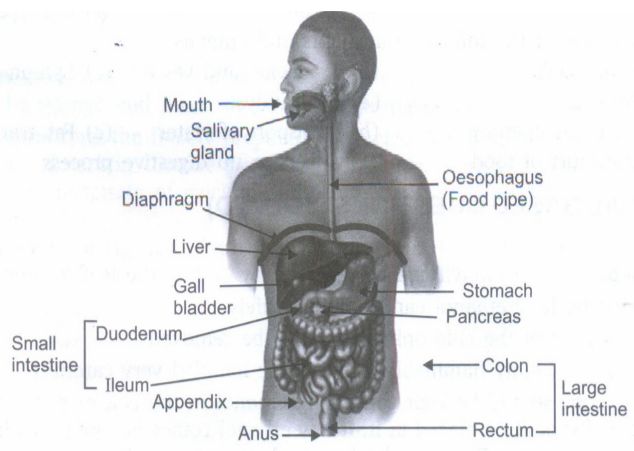
(i) It includes pancreatic amylase which breaks down starch, pancreatic lipase which breakdown lipids and trypsin for digesting proteins.

(ii) The secretions of pancreatic duct make the medium alkaline, which is favourable for the action of pancreatic enzymes.

Pancreas secretes hormones insulin and glucagons. The walls of small intestine contains glands which secrete intestinal juice called succus entericus which helps in digesting protein A into amino acids, carbohydrates into glucose, fats into fatty acids and glycerol. The digested food is taken up by the walls of the intestine which has numerous fingers like projection called villi. Villi are richly supplied with blood vessels which the absorbed food to obtain energy. The presence of villi and blood capillaries increases the capacity of absorption by the wall of intestine

6. Large intestine: It includes three parts namely caecum, colon and rectum. It is shorter but wider than small intestine. It secretes mucus for lubrication. The undigested food is collected as faeces egested out through anus which is regulated by anal sphincter.

18)



Answer the following questions based on the above figure.