



Grade 11

Science

Unit : 06 - Biological processes in human body.

- (1) Following diagram illustrate a part of the human digestive system. Which response gives the organs A, B, C and D with the function of their enzymes correctly.

	Organ	Function
1)	A Liver	Converts proteins in to polypeptides.
2)	B Pancreas	Converts proteins into acid by trypsin.
3)	C Oesophagus	Intiates the digestion of carbohydrates.
4)	D Stomach	Intiates the digestion of lipids.

- (2) During expiration,
- 1) Intercoastal muscles contract and diaphragm relax.
 - 2) Intercoastal muscles relax and diaphragm relax.
 - 3) Intercoastal muscles contract and diaphragm contract.
 - 4) Intercoastal muscles relax and diaphragm contract.
- (3) Which of the following answer includes the substances that are completely reabsorbed in the capillaries of kidney, After being filtered in the Bowmans capsule.
- 1) Amino acids, minerals and glucose.
 - 2) Glucose, amino acid and urea.
 - 3) Urea, vitamins and minerals.
 - 4) Glucose, amino acid and vitamins.
- (4) A man met with an accident had a head injury. He was able to stand up, but he was unable to walk steadily. The most probable part of his brain to be affected is,
- | | |
|----------------------|-----------------|
| 1) Cerebrum | 2) Cerebellum |
| 3) Medulla oblongata | 4) Hypothalamus |
- (5) Which of the following answer shows incorrect function of the given hormones.
- | | | |
|-------------------|---|---|
| 1) Adrenalin | – | Preparing the body for emergency. |
| 2) Glucagon | – | Reduce the sugar level in blood. |
| 3) Growth hormone | – | Regulate the body growth. |
| 4) Thyroxin | – | Regulation of metabolic rate of human body. |

iii) State the reason for the food to get converted to the condition that you mentioned in above ii).

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iv) Write one function performed by stomach in the process of digestion of food.

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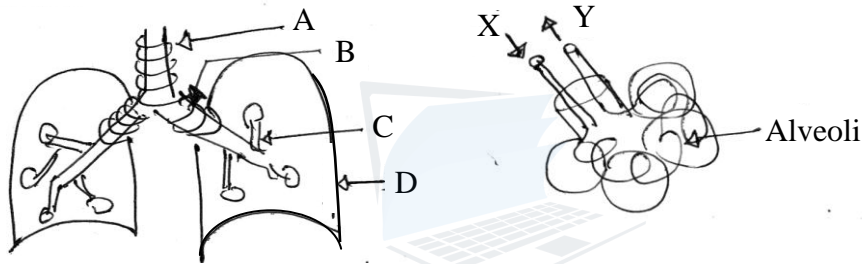
v) State the place at which each of the following nutrients initiate the digestive process.

a) Protein –

b) Lipid –

c) Starch –

(2) The diagram illustrate some parts of the organ related to the inspiration of man.



i) Name A, B, C and D.

A → B →

C → D →

ii) What type of tissue lines the part A, B and C.

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iii) State a difference in the composition of blood in x and y.

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iv) Give 2 features of alveoli for an efficient gas exchange.

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v) Give 01 function of red blood cells and blood plasma in gas exchange respectively.

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(3) Cerebrum, cerebellum, medulla oblongata, thalamus and hypothalamus can be identified as the major parts of the human brain.

i) From the parts given above, write down the two parts that are found at the hind parts of the human brain.

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ii) State separately, which part from the four parts given above, perform the following actions.

a) Controlling the memory →

b) Controlling the heartbeat →

c) Controlling of respiration →

d) Co-ordination of muscle movements →

e) Regulation of muscle movements →

f) Identifying sensations →

iii) Reflex actions are made by the organs brain and the spinal cord.

a) By which organ, is it reflex actions need instant responses?

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b) State by which organ the following reflex action are made.

i) The adjustment of the pupil of the eye as a result of the eye receiving strong and weak light.

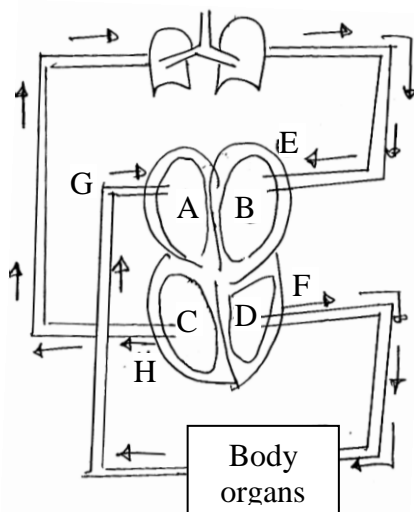
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ii) Taking away the hand when it comes into contact with something hot.

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Essay Questions

(1) This sketch diagram shows a double circulation system of a human.



i) What is meant by double circulation.

ii) Name A to H.

iii) Deoxygenated blood is traveled to lungs by "H" vessel. How is the structure of the lungs make to purify blood effectively.

iv) Explain briefly why the muscle of left ventricle is thicker than the right ventricle.

- v) Name,
- The vessel that collects deoxygenated blood from the head and the anterior region of the body that takes to right auricle.
 - The vessel that collects deoxygenated blood from kidneys, liver, digestive system and legs that takes to the right auricle.
 - The vein which carries deoxygenated blood from right ventricles to lungs to purify.
 - The valve that separate left auricle and left ventricle.
- vi) Mention three diseases that disturb the function of the heart.
- vii) What is heart beat?
- viii) Describe in brief,
- Pulmonary circulation.
 - Systemic blood circulation.

(2) The process of removal of harmful toxic substances or metabolic waste products from the body is called excretion.

- What is this structure called?
- Name the labeled parts from A – F.
- What is the vein that carries oxygenated blood in to the kidney?
- What do you called the U shaped loop like segment of the tubule?
- What happens to the glucose, amino acids which enter this structure along with the filtrate?
- Name 2 large molecules which cannot pass through the glomerulus.
- Name the major nitrogenous waste product in human body?
- Draw a labeled diagram of human excretory system.
- Name the major excretory products in human body.
- Write the constituents of urine.

