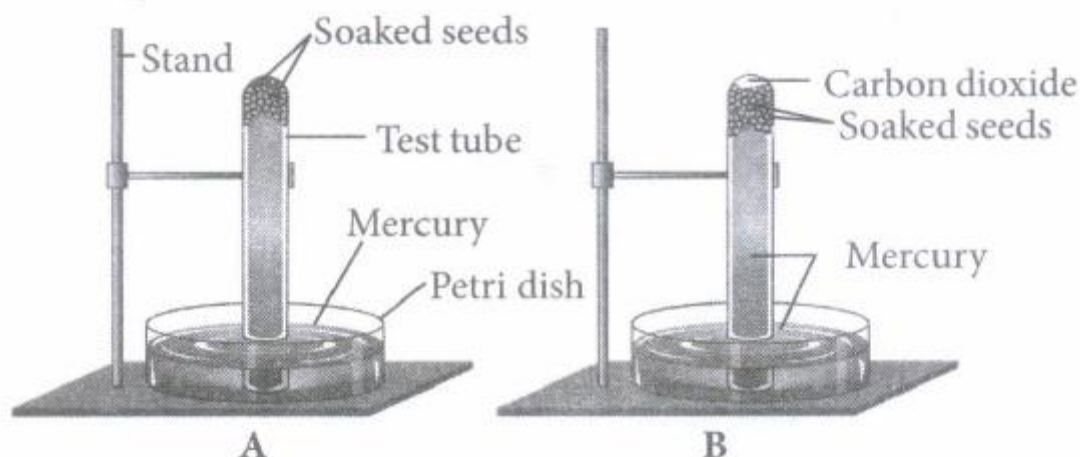


MCQ and case Study

1. The given experimental set-up demonstrates

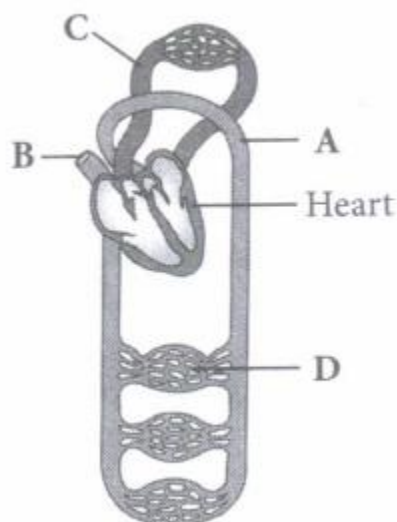


(a) photosynthesis	(b) aerobic respiration
(c) anaerobic respiration	(d) ascent of sap

2. Though vertebrates are aerobes, but their (i) show anaerobic respiration during (ii). During this (iii) of skeletal muscle fibres is broken down to release lactic acid and energy. Lactic acid, if accumulates causes muscle fatigue. Fill up the blanks in the above paragraph and select the correct option

(i)	(ii)	(iii)
(a) skeletal muscles	heavy exercise	glucose
(d) skeletal muscles	mild exercise	glycogen
(c) skeletal muscles	heavy exercise	glycogen
(d) cardiac muscles	heavy exercise	glycogen

3. The given figure is of circulatory system. Identify the labelled parts (A-D) from the list (I-VII).



(I) Pulmonary circulation (II) Systemic circulation (III) Superior vena cava (IV) Inferior vena cava (V) Aorta (VI) Veins and venules (VII) Arterioles and capillaries

(a) A-(V), B-(III), C-(I), D-(VII)	(b) A-(VII), B-(IV), C-(I), D-(VI)
(c) A-(V), B-(III), C-(II), D-(VII)	(d) A-(VII), B-(V), C-(I), D-(VI)

4. The green plants make their food, through photosynthesis and are therefore called autotrophs. All other organisms depend upon green plants for food and are referred to as heterotrophs. Green plants carry out photosynthesis by using light energy of sun. The first phase of reactions are directly light driven therefore called light reactions. The second phase of reactions are not directly light driven but are dependent on the products of light reactions and are called dark reactions.

(i) Which of the following is produced during the light phase of photosynthesis?

(a) ATP	(b) NADPH	(c) Carbohydrate	(d) Both (a) and (b)
---------	-----------	------------------	----------------------

(ii) In the overall process of photosynthesis, the number of sugar molecules produced is

(a) 12	(b) 6	(c) 4	(d) 1
--------	-------	-------	-------

(iii) A plant is provided with ideal conditions for photosynthesis and supplied with isotope $^{14}\text{CO}_2$. When the products of the process are analysed carefully, what would be the nature of products?

- (a) Both glucose and oxygen are normal.**
- (b) Both glucose and oxygen are labelled.**
- (c) Only glucose is labelled and oxygen is normal.**
- (d) Only oxygen is labelled and glucose is normal.**

5. A doctor is examining a patient who presents with symptoms of frequent urination, excessive thirst, and fatigue. Blood and urine tests reveal elevated levels of glucose in the urine and blood, as well as abnormal levels of certain electrolytes.

Based on the patient's symptoms and test results, which of the following is the MOST likely diagnosis?

- A) Kidney stones
- B) Urinary tract infection
- C) Diabetes mellitus
- D) Dehydration

6. Draw and label the parts of human excretory system's unit . 3