

BSC 2086L UNIT 2, practice questions

1. a. The major role of the respiratory system is to
 b. How many lobes does the right lung have?
 c. The trachea is lined with ciliated epithelial cells, what is the function of the cilia?
2. Pair the term in Table 1 with the description in Table 2:

Table 1	Term:
A	Pulmonary ventilation
B	External respiration
C	Transport of respiratory gases
D	Internal respiration

Table 2	Description:
1	Exchange of gases between systemic blood and tissue cells.
2	The transport of respiratory gases between the lungs and tissue cells of the cardiovascular system.
3	Movement of air into and out of lungs so that gases in the alveoli are continuously changed and refreshed.
4	The gas exchange between the blood and air-filled chambers of the lungs

3. What is the definition of a. vital capacity b. tidal volume
 c. What mechanism drives inspiration?
4. Place the constituents of urine in order of highest to lowest concentration:
 A. Sodium
 B. Water
 C. Creatinine
 D. Uric acid
 E. Potassium
 F. Urea
 G. Sulphate
5. a. What is the normal output of urine excreted in a 24-hour period?
 b. Name the functional unit of the kidney.
 c. Name a major function of the kidney.
6. Urine filtration involves 3 processes. Name the 3 processes and briefly describe the purpose of each.

7.

Urine Test	Patient A
Color	Yellow
Transparency	Clear
pH	5.2
Specific gravity	1.06
Glucose	Present

- a. Give 1 possible diagnosis for this patient based on the results in the table above.
 - b. What substance causes the normal yellow color of urine?
7. A. Name the functional unit of the liver.

- B. What is the function of bile?
 C. Name the structure that stores bile.
- Describe the exocrine and endocrine functions of the pancreas.
 - Name the 5 major processes of digestion:

KEY

- supply the body with O₂ and dispose of CO₂
 - 3
 - Move mucus laden with dust particles, bacteria and other debris away from the lungs and toward the throat.
- Pair the term in Table 1 with the description in Table 2:

Table 1	Term:	Answer:
A	Pulmonary ventilation	3
B	External respiration	4
C	Transport of respiratory gases	2
D	Internal respiration	1

Table 2	Description:
1	Exchange of gases between systemic blood and tissue cells.
2	The transport of respiratory gases between the lungs and tissue cells of the cardiovascular system.
3	Movement of air into and out of lungs so that gases in the alveoli are continuously changed and refreshed.
4	The gas exchange between the blood and air-filled chambers of the lungs

- The greatest volume of air that can be expelled from the lungs after taking the deepest possible breath
 - lung volume representing the normal volume of air displaced between normal inspiration and expiration when extra effort is not applied
 - Inspiration is generated by decreasing the pressure in the alveoli to a level below that of atmospheric pressure (follows Boyles Law). This is achieved by contracting the diaphragm and intercostal muscles which increases the size of the thoracic cavity.
- Answer: B, F, A, E, G, C, D
- 1-1.8L
 - nephron
 - Removal of nitrogenous wastes, homeostasis (electrolytes, pH and fluid balance)
- Filtration: Fluid and blood components smaller than proteins in the glomerular capillaries are forced into the glomerular capsule to form filtrate.
 Reabsorption: Movement of many filtrate components back into the blood. Such as water, glucose and amino acids, various ions.
 Secretion: Movement of H⁺, K⁺ and creatinine from blood or tunular cells into the filtrate.
- A.Diabetes mellitus B. Urochrome
- A. Lobule B. Emulsify fats (breaks down large fats into smaller ones) C. Gall bladder
- Endocrine: insulin and glucagon: regulate blood glucose
 Exocrine: pancreatic juice containing hydrolytic enzymes is secreted into the duodenum via the pancreatic duct.
- Ingestion, Movement of food, Mechanical and enzymatic digestion, Absorption of nutrients
 Elimination of indigestible waste