



UNIVERSITI KUALA LUMPUR
ROYAL COLLEGE OF MEDICINE PERAK

FINAL EXAMINATION
MARCH 2026 SEMESTER

COURSE CODE : RFB20103
COURSE NAME : ANATOMY & PHYSIOLOGY 2
PROGRAMME NAME : BACHELOR OF PHYSIOTHERAPY (HONOURS)
DATE : 26 JUNE 2026
TIME : 2.30 PM – 4.30 PM
DURATION : 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read **CAREFULLY** the instructions given in the question paper.
 2. This question paper has information printed on both sides of the paper.
 3. This question paper consists of **TWO (2)** sections; Section A and Section B.
 4. Answer **ALL** questions in Section A and **THREE (3)** questions in Section B; Question 1 and Question 2 are **COMPULSORY**.
 5. Please mark/write your answers on the OMR answer script and answer booklet provided.
 6. Answer all questions in English language **ONLY**.
-

THERE ARE 9 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 40 marks)

I) MULTIPLE CHOICE QUESTIONS (20 marks)

INSTRUCTION: Answer ALL questions.

Please use the OMR sheet provided.

1. Identify the specific location of the heart in relation to the diaphragm.
- A. Lateral to the diaphragm.
 - B. Attached to the diaphragm.
 - C. Posterior to the diaphragm.
 - D. Inferior surface of diaphragm.
 - E. Superior surface of diaphragm.

2.

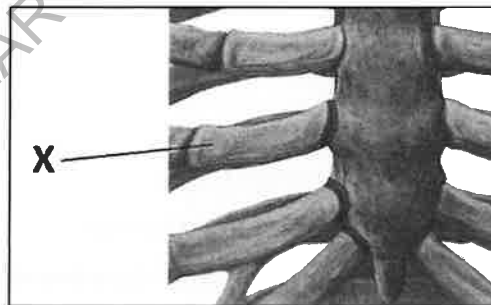


Diagram 1: The cartilage.

Select the primary function of X.

- A. Filtered oxygen for the lungs.
 - B. Protecting the spinal vertebrae.
 - C. Secreting synovial fluid for the thoracic cavity.
 - D. Providing a rigid, immobile attachment for ribs.
 - E. Providing a flexible attachment for the anterior and distal ends of ribs.
3. Find the heart chamber that has the thickest wall to supply systemic circulation.
- A. Left atrium.
 - B. Right atrium.
 - C. Left ventricle.
 - D. Right ventricle.
 - E. Interventricular septum.

4. Identify the structures that are contained within the anterior mediastinum.
- I. Fat.
 - II. Heart.
 - III. Lymph nodes.
 - IV. Thymus gland.
- A. II, and IV.
B. I, II, and III.
C. I, II, and IV.
D. I, III, and IV.
E. II, III and IV.
5. Find the anatomical feature that describes the right primary bronchus compared to the left one.
- A. It is more horizontal.
 - B. It is longer and narrower.
 - C. It lacks hyaline cartilage rings.
 - D. It is wider, shorter, and more vertical.
 - E. It branches into only two secondary bronchi.
6. What is the primary action of the external intercostal muscles during respiration?
- A. Producing mucus to trap dust.
 - B. Closing the glottis during swallowing.
 - C. Depressing the ribs to decrease volume.
 - D. Elevating the ribs to increase thoracic volume.
 - E. Separating the thoracic and abdominal cavities.
7. Which region of the pharynx serves as a common passageway for both air and food and contains the palatine tonsils?
- A. Larynx.
 - B. Trachea.
 - C. Oropharynx.
 - D. Nasopharynx.
 - E. Auditory tube.

8. What is the source of oxygenated blood delivered to the lung tissue for its own metabolic needs?
- A. Aorta.
 - B. Pulmonary veins.
 - C. Bronchial arteries.
 - D. Pulmonary arteries.
 - E. Superior vena cava.
9. Identify the approximate percentage of water found in blood plasma.
- A. 45%
 - B. 55%
 - C. 72%
 - D. 80%
 - E. 91%
10. Select the physiological outcome of the contraction of the smooth muscle layer within the tunica media.
- A. The vessel dilates and blood pressure drops.
 - B. The vessel becomes more elastic and flexible.
 - C. The nerve impulses are blocked from the vessel.
 - D. The blood flow is completely diverted to the lungs.
 - E. The vessel constricts and blood pressure increases.
11. Identify the function of the antibodies produced by plasma cells.
- A. To respond to foreign antigens.
 - B. To help B cells recognize T cells.
 - C. To transform into T lymphocytes.
 - D. To directly destroy the heart wall.
 - E. To increase the number of natural killer cells.
12. Select the condition that triggers the Hering-Breuer reflex.
- A. Voluntary holding of breath.
 - B. Extreme overinflation of the lungs.
 - C. Suddenly drop in body temperature.
 - D. Accumulation of nitrogen in the blood.
 - E. Reduction of tidal volume below 150 ml.

13. Which specific area of the brainstem is responsible for setting the normal rhythmic pace of breathing (eupnea)?
- A. Thalamus.
 - B. Cerebellum.
 - C. Hypothalamus.
 - D. Cerebral cortex.
 - E. Medulla oblongata.
14. Identify the primary cause of cardiogenic pulmonary edema.
- A. Renal artery stenosis.
 - B. Injury to the lung vasculature.
 - C. Bacterial infection in the bronchioles.
 - D. Decompensated left ventricular failure.
 - E. Chronic obstructive pulmonary disease.
15. Find the cup-shaped structure that funnels urine toward the renal pelvis.
- A. Cortex.
 - B. Calyces.
 - C. Renal capsule.
 - D. Renal columns.
 - E. Medullary pyramids.
16. Why is the right kidney positioned slightly lower than left kidney?
- A. The right kidney is naturally larger and heavier.
 - B. The stomach pushes the right kidney downward.
 - C. The diaphragm is lower on the right side of the body.
 - D. The heart's position shifts the abdominal organs downward.
 - E. The liver occupies considerable space on the right-side superior to the kidney.
17. Identify the ligament that is attached to ovaries.
- A. Broad ligament.
 - B. Uterine ligament.
 - C. Cervical ligament.
 - D. Fallopian ligament.
 - E. Pericardial ligament.

18. Find the role of the lips or labia.
- A. Serve as the anterior roof.
 - B. Protect the anterior opening.
 - C. Produce saliva for digestion.
 - D. Form the lateral walls of the mouth.
 - E. Form the posterior roof of the mouth.
19. Select the starting point of the ascending colon.
- A. Transverse colon.
 - B. Descending colon.
 - C. Right Colic Flexure.
 - D. Inferior surface of liver.
 - E. Superior border of cecum.
20. Identify the structure that connects the pituitary gland to the hypothalamus.
- A. Isthmus.
 - B. Infundibulum.
 - C. Neurohypophysis.
 - D. Adenohypophysis.
 - E. Hypophyseal portal system.

II) SHORT ANSWER QUESTIONS (20 marks)**INSTRUCTION: Answer ALL questions in the answer booklet provided.****Each question carries FOUR (4) marks.**

1. List **FOUR (4)** features of typical rib.
2. Give **FOUR (4)** parts of conducting zone of respiratory system.
3. List **TWO (2)** granular and agranular leukocytes.
4. State **FOUR (4)** non-cardiogenic causes of pulmonary edema.
5. List the following:
 - i. **TWO (2)** major organs in urinary system.
 - ii. **TWO (2)** lipid hormones.

(2 marks)

(2 marks)

SECTION B: MODIFIED ESSAY QUESTIONS (Total: 60 marks)

INSTRUCTION: This section consists of **FOUR (4)** questions.

Answer THREE (3) questions in the answer booklet provided.

Question 1 and Question 2 are COMPULSORY.

Question 1

- (a) Explain the structure of the lungs. (6 marks)
- (b) Describe bronchial division. (5 marks)
- (c) Explain the anatomy of alveoli. (5 marks)
- (d) Define the following.
- i. Expiratory Reserve Volume. (2 marks)
 - ii. Residual Volume (RV). (2 marks)

Question 2

- (a) Describe the anatomical structure of manubrium. (6 marks)
- (b) List **FOUR (4)** valves of the heart. (4 marks)
- (c) Explain about pericardium of the heart. (5 marks)
- (d) Discuss red blood cell. (5 marks)

Question 3

- (a) Give **FIVE (5)** functions of endocrine system. (5 marks)
- (b) Explain the neural regulation of respiratory system. (5 marks)
- (c) Describe the process of gaseous exchange in the lung. (5 marks)
- (d) List **FIVE (5)** external genitalia structures in female reproductive system. (5 marks)

Question 4

- (a) List **THREE (3)** types of blood plasma. (3 marks)
- (b) Explain blood clotting mechanism. (6 marks)
- (c) State **THREE (3)** functions of mouth. (3 marks)
- (d) Describe **FOUR (4)** gross structures of stomach. (8 marks)

END OF EXAMINATION PAPER