UNIVERSITI KUALA LUMPUR
ROYAL COLLEGE OF MEDICINE PERAK

FINAL EXAMINATION
JULY 2025 SEMESTER

COURSE CODE	: RFD13703
COURSE NAME	: BASIC PHYSIOLOGY
PROGRAMME NAME	: DIPLOMA IN PHYSIOTHERAPY
DATE	: 17 SEPTEMBER 2025
TIME	: 9.00 AM – 11.00 AM
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.
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 8 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A: MULTIPLE CHOICE QUESTIONS

INSTRUCTION: Answer ALL questions.

Please use the OMR sheet provided.

1. Identify the organelle that supports the structure of cell.
   A. Lysosome.
   B. Cytoskeleton.
   C. Plasma membrane.
   D. Smooth endoplasmic reticulum.

2. Find the statement of epithelial tissue.
   A. Coordinate the limb movement.
   B. Connect and support the tissue fiber.
   C. Provide mechanical framework of body.
   D. Line the cavities and surfaces of structure.

3. Identify the macroscopic structure of bone.
   A. Flat bone.
   B. Blood vessel.
   C. Irregular bone.
   D. Haversian canal.

4. Find the inner layer of muscle tissue.
   A. Perimysium.
   B. Pericardium.
   C. Endomysium.
   D. Endocardium.

5. Identify the mechanism that refers to electrical impulse activity.
   A. Heart sound.
   B. Cardiac cycle.
   C. Conduction system.
   D. Systemic circulation.

6. Find the blood vessel that carries poor oxygenated blood from abdomen to the heart.
   A. Carotid artery.
   B. Pulmonary artery.
   C. Inferior vena cava.
   D. Brachiocephalic vein.

7. Identify the term that refers to ability of cardiac cell to synchronize their contraction.
   A. Arrhythmia.
   B. Automaticity.
   C. Autoregulation.
   D. Autorhythmicity.

8. "**X** is the cells of the immune system that are involved in protecting the body against both infectious disease and foreign invaders."
   Find **X**.
   A. Phagocytes.
   B. Leucocytes.
   C. Erythrocytes.
   D. Thrombocytes.

9. Identify the hormone secreted by posterior pituitary gland.
   A. Oxytocin.
   B. Growth hormone.
   C. Adrenocorticotrophic.
   D. Follicle-stimulating hormone.

10. Find the statement of lung compliance.
   A. It is inversely proportional with change in volume.
   B. If it easy to inflate something, the compliance is low.
   C. It refers to tendency to spring back to original shape.
   D. Best compliance is seen in the mid-expansion range.

11. Select the movement of air when alveolar pressure is positive.
    A. Air flow into the lung.
    B. Air is flow into the pleura.
    C. Air flow out from the lung.
    D. Air is flow out from the pleura.

12. Identify the serous membrane that covers the small intestine organ.
    A. Parietal pleura.
    B. Visceral peritoneum.
    C. Parietal pericardium.
    D. Visceral pericardium.

13. Select the structure that is located between transverse and sigmoid colon.
    A. Jejunum.
    B. Duodenum.
    C. Ascending colon.
    D. Descending colon.

- In females, it stimulates estrogen production and maturation of the ovum.
- In males, it stimulates sperm production.

14. Find the type of hormone that related to the above statement.
    A. Growth hormone.
    B. Antidiuretic hormone.
    C. Follicle-stimulating hormone.
    D. Thyroid-stimulating hormone.

15. Identify the accessory organ of reproductive system.
    A. Ovary.
    B. Cervix.
    C. Fallopian tube.
    D. Mammary gland.

16. Find the statement of ovum production.
    A. The process is known as oogonium.
    B. At 8 month pregnancy, meiosis II completed.
    C. Secondary oocyte start produced after puberty.
    D. Produced primary oocyte with 46 haploid chromosome.

17. Select the type of passive transport in the nephron.
    A. Filtration.
    B. Secretion.
    C. Reabsorption.
    D. Active process.

18. Identify the feature of urinary bladder.
    A. Its function is not only urination.
    B. It is controlled by two sphincters.
    C. It contains three layers of detrusor muscle.
    D. It is attached from the kidney to the bladder.

19. "**M** is the nerve fibers that carry information to the central nervous system."
    Find **M**.
    A. Motor neuron.
    B. Somatic action.
    C. Sensory neuron.
    D. Autonomic action.

20. Identify the special sense that is involved in gustatory area of cerebrum.
    A. Taste.
    B. Smell.
    C. Visual.
    D. Hearing.

SECTION B: MODIFIED ESSAY QUESTIONS

INSTRUCTION: This section consists of FOUR (4) questions.
Answer THREE (3) questions in the answer booklet provided

Question 1

(a) Name **THREE (3)** components in cell membrane.

(3 marks)

(b) State **FOUR (4)** functions of epithelial tissue.

(4 marks)

(c) List **FOUR (4)** elements in conduction system.

(4 marks)

(d) Give **FOUR (4)** factors influencing blood pressure.

(4 marks)

(e) Describe about cardiac cycle.

(5 marks)

Question 2

(a) List **THREE (3)** causes of muscle fatigue.

(3 marks)

(b) Explain **THREE (3)** primary functions of skeletal system.

(6 marks)

(c) Describe **TWO (2)** types of myofilament in muscle.

(4 marks)

(d) List **FOUR (4)** materials that can be found in urine.

(4 marks)

(e) State **THREE (3)** functions of the urinary system that regulate aspects of homeostasis.

(3 marks)

Question 3

(a) State **FIVE (5)** neural activity.

(5 marks)

(b) List **THREE (3)** factors that influence the effect of hormones .

(3 marks)

(c) Explain **TWO (2)** regions of adrenal glands.

(4 marks)

(d) Describe **FOUR (4)** digestive processes in the body.

(8 marks)

Question 4

(a) State **FOUR (4)** functions of upper respiratory tract.

(4 marks)

(b) Name **TWO (2)** phases in mitosis.

(2 marks)

(c) Describe **THREE (3)** glands in the male reproductive system.

(9 marks)

(d) Describe the mechanism during inspiration phase.

(5 marks)

END OF EXAMINATION PAPER