



**UNIVERSITI KUALA LUMPUR  
ROYAL COLLEGE OF MEDICINE PERAK**

---

**FINAL EXAMINATION  
JULY 2025 SEMESTER**

---

**COURSE CODE** : RFB20702  
**COURSE NAME** : PATHOLOGY  
**PROGRAMME NAME** : BACHELOR OF PHYSIOTHERAPY (HONOURS)  
**DATE** : 18 SEPTEMBER 2025  
**TIME** : 9.00AM – 11.00AM  
**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 8 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. Find the definition of hypertrophy.
  - A. Increase in size of cells.
  - B. Increase in number of cells.
  - C. Increase in tissue blood supply.
  - D. Decrease in tissue blood supply.
  - E. Decrease in number and size of cells.
  
2. Which type of necrosis is commonly associated with tuberculosis?
  - A. Fat necrosis.
  - B. Fibrinoid necrosis.
  - C. Caseous necrosis.
  - D. Liquefactive necrosis.
  - E. Coagulative necrosis.
  
3. Identify an example of a chemical agent causing cell injury.
  - A. Viruses.
  - B. Poisons.
  - C. Hypoxia.
  - D. Radiations.
  - E. Vitamin deficiency.
  
4. Find a condition of pathologic increased cell production in a normal tissue or organ.
  - A. Liver regeneration after partial resection.
  - B. Cardiac hypertrophy due to hypertension.
  - C. Endometrial proliferation during pregnancy.
  - D. Skeletal muscle hypertrophy due to exercise.
  - E. Endometrial hyperplasia due to hormonal imbalance.

5. Which of the following condition is related to inflammation?
- A. Myopathy.
  - B. Carcinoma.
  - C. Appendicitis.
  - D. Hypertension.
  - E. Osteoporosis.
6. What are the cardinal signs of acute inflammation?
- I. Heat.
  - II. Swelling.
  - III. Redness.
  - IV. Numbness.
- A. I and IV.
  - B. II and III.
  - C. I, II, and III.
  - D. II, III, and IV.
  - E. I, II, III, and IV.
7. Select the primary cell that involved in the inflammatory phase of wound healing.
- A. Fibroblasts.
  - B. Neutrophils.
  - C. Osteoclasts.
  - D. Keratinocytes.
  - E. Chondrocytes.
8. Find the stage of healing that occurs immediately after an injury and involves blood clotting.
- A. Maturation.
  - B. Proliferation.
  - C. Haemostasis.
  - D. Inflammation.
  - E. Regeneration.

9. Identify the phase of fracture healing that involves soft callus formation.
- A. Reparative phase.
  - B. Remodelling phase.
  - C. Inflammatory phase.
  - D. Haemostasis phase.
  - E. Degenerative phase.
10. Find the first line of defense in the immune system.
- A. Skin.
  - B. Cytokines.
  - C. T lymphocytes.
  - D. B lymphocytes.
  - E. Complement proteins.
11. Which cells are primarily involved in cell-mediated immunity?
- A. Basophils.
  - B. Neutrophils.
  - C. Macrophages.
  - D. T lymphocytes.
  - E. B lymphocytes.
12. **“Complement system is a part of X.”**  
Find X.
- A. Innate immunity.
  - B. Passive immunity.
  - C. Adaptive immunity.
  - D. Humoral immunity.
  - E. Cell-mediated immunity.
13. Which of the following tumors originates from connective tissue and is malignant?
- A. Sarcoma.
  - B. Blastoma.
  - C. Adenoma.
  - D. Papilloma.
  - E. Carcinoma.

14. Identify the tumor that is made up of excess blood vessels and often seen at birth.
- A. Lipoma.
  - B. Sarcoma.
  - C. Blastoma.
  - D. Adenoma.
  - E. Hemangioma.
15. Select the characteristic of malignant tumors.
- A. Slow growth.
  - B. Encapsulation.
  - C. Localized growth.
  - D. Well differentiated cells.
  - E. Invasive and metastatic behavior.
16. Which of the following microorganisms cause diseases such as gonorrhoea and strep throat.
- A. Virus.
  - B. Fungus.
  - C. Parasite.
  - D. Bacteria.
  - E. Protozoa.
17. **“Y is the presence of bacteria in the bloodstream.”**  
Identify Y.
- A. Viremia.
  - B. Fungemia.
  - C. Bacteriosis.
  - D. Septicemia.
  - E. Bacteremia.

18. What type of infection that occur without noticeable symptoms?
- A. Clinical infection.
  - B. Chronic infection.
  - C. Systemic infection.
  - D. Localized infection.
  - E. Subclinical infection.
19. Which of the following statement **BEST** explains the pathogenesis of megaloblastic anemia?
- A. Iron sequestration due to chronic inflammation.
  - B. Autoimmune attack on erythrocyte membranes.
  - C. Hemoglobin polymerization causes sickling of cells.
  - D. Increased destruction of red blood cells in the spleen.
  - E. Impaired DNA synthesis leading to ineffective erythropoiesis.
20. Identify the clinical sign that is mostly associated with chronic hypercortisolism in Cushing's syndrome.
- A. Myxedema.
  - B. Bradycardia.
  - C. Exophthalmos.
  - D. Hyperpigmented knuckles.
  - E. Purple striae on the abdomen.

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

1. Define the following terminologies.
  - i. Apoptosis.
  - ii. Necrosis.
2. List **FOUR (4)** common methods used to diagnose tumors.
3. State **TWO (2)** differences between innate and adaptive immunity.
  - i. Innate.
  - ii. Adaptive.
4. List **FOUR (4)** differences between benign and malignant tumors.
5. Describe **FOUR (4)** factors that influence resistance to infection.

**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 **FOUR (4)** patterns of tissue necrosis. (8 marks)
- (b) Describe the phases of wound healing. (6 marks)
- (c) Explain **THREE (3)** goals of preventive rehabilitation in cancer patients. (6 marks)

**Question 2**

- (a) Describe **FOUR (4)** types of cancer therapies. (8 marks)
- (b) Explain **THREE (3)** importance of understanding the recovery and healing process as a physiotherapist. (6 marks)
- (c) Describe **THREE (3)** molecules that are involved in immune response. (6 marks)

**Question 3**

- (a) Define immunity. (2 marks)
- (b) Explain **FIVE (5)** components of the chain of infections. (10 marks)
- (c) Describe **FOUR (4)** functions of antibody. (8 marks)

**Question 4**

- (a) State **TWO (2)** modifiable risk factors for atherosclerosis. (2 marks)
- (b) Explain the development, clinical features, and management strategies of atherosclerosis. (9 marks)
- (c) State the definition, causes, and examples for the given cellular adaptations. (9 marks)

Adaptation	Definition	Cause	Example
Hypertrophy			
Hyperplasia			
Atrophy			

**END OF EXAMINATION PAPER**