



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

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**FINAL EXAMINATION**  
**MARCH 2026 SEMESTER**

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**COURSE CODE** : RFD33302  
**COURSE NAME** : PHYSIOTHERAPY IN SPORT INJURY  
**PROGRAMME NAME** : DIPLOMA IN PHYSIOTHERAPY  
**DATE** : 29 JUNE 2026  
**TIME** : 2.30 PM - 4.30 PM  
**DURATION** : 2 HOURS

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**INSTRUCTIONS TO CANDIDATES**

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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 in the OMR answer script and answer booklet provided.
6. Answer all questions in English language **ONLY**.

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**THERE ARE 9 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.**

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**SECTION A: MULTIPLE CHOICE QUESTIONS (Total: 20 marks)****INSTRUCTION: Answer ALL questions.****Please use the OMR sheet provided.**

1. Find the substrate that yields the largest amount of adenosine triphosphate (ATP) per molecule.
  - A. Glucose.
  - B. Fatty acids.
  - C. Amino acids.
  - D. Phosphocreatine.
  
2. Select the sport that predominantly utilize the oxidative energy system.
  - A. Gymnastics.
  - B. Full marathon.
  - C. Combat sports.
  - D. 100-meter swimming.
  
3. Identify the common symptoms of concussion.
  - I. Nausea.
  - II. Tinnitus.
  - III. Confusion.
  - IV. Palpitation.
  - A. I and II.
  - B. I, II, and III.
  - C. I, III and IV.
  - D. II, III, and IV.
  
4. Select the exercise training programme that can increase the maximal oxygen uptake ( $\text{VO}_2\text{max}$ ) value.
  - A. Mobility exercise.
  - B. Stretching exercise.
  - C. Endurance exercise.
  - D. Strengthening exercise.

5. Identify the condition that is characterized by pain in the medial aspect of the elbow during gripping and wrist flexion activities.
- A. Tennis elbow.
  - B. Golfer's elbow.
  - C. Thrower's elbow.
  - D. Little League elbow.
6. Select the condition that causes Popeye deformity.
- A. Shoulder osteolysis.
  - B. Proximal long head of biceps tear.
  - C. Anteroinferior glenoid labrum tear.
  - D. Superior labrum anterior and posterior lesion.
7. Find the structures involved in separated shoulder injury.
- A. Superior labrum and long head of biceps.
  - B. Transverse humeral ligament and biceps tendon.
  - C. Acromioclavicular and coracoclavicular ligaments.
  - D. Coracoacromial and transverse humeral ligaments.
8. Select is the injury that causes posterior shoulder pain during overhead throwing.
- A. Internal impingement.
  - B. Bicipital tendinopathy.
  - C. External impingement.
  - D. Acromioclavicular joint injury.
9. What is the mechanism of injury for Mallet finger?
- A. Direct trauma to metacarpophalangeal joint.
  - B. Forced flexion of distal interphalangeal joint.
  - C. Hyperextension of proximal interphalangeal joint.
  - D. Forced extension of proximal interphalangeal joint.
10. Select a common injury mechanism of hip pointer.
- A. Repetitive hip flexion motion.
  - B. Direct blow to the iliac crest in contact sports.
  - C. Eccentric force at the posterior aspect of the hip.
  - D. Inflammation of iliopsoas bursa due to running activity.

11. Find the musculoskeletal causes of groin injuries.
- I. Genital swelling.
  - II. Adductor tendinitis.
  - III. Urinary tract infection.
  - IV. Lower abdominal muscle tear.
- A. I and III.  
B. II and IV.  
C. I, III and IV.  
D. II, III, and IV.
12. **“A football player suffered a partial tear of his meniscus one week ago.”**  
Select the appropriate rehabilitation goal for the above athlete.
- A. Functional and return-to-sport programme.
  - B. Independent with no weight-bearing activity.
  - C. Restore full range of motion for knee extension.
  - D. Improve quadriceps strength using open-kinetic chain exercise.
13. Identify the cause of acquired flatfoot deformity.
- A. Congenital deformities.
  - B. Gastrocnemius tightness.
  - C. Posterior tibial tendon dysfunction.
  - D. First metatarsophalangeal joint sprain.
14. Select an appropriate consideration in the early phase of meniscus injury rehabilitation.
- A. Full weight bearing and knee extension.
  - B. Avoid weight bearing and knee movements.
  - C. Avoid weight bearing and knee flexion below 60°.
  - D. Limiting weight bearing and knee flexion below 60°.

15. Identify the measurements to estimate obesity.
- I. Skinfold calipers.
  - II. Body mass index.
  - III. Waist circumference.
  - IV. Basal metabolic rate.
- A. I and II.  
B. III and IV.  
C. I, II, and III.  
D. II, III, and IV.
16. Which exercise principle is suitable to prevent exercise-induced bronchoconstriction?
- A. Long duration, low intensity.
  - B. Short duration, low intensity.
  - C. Long duration, high intensity.
  - D. Short duration, high intensity.
17. Identify the risk of vigorous exercise for children and adolescents.
- A. Stimulates bone growth.
  - B. Retard linear bone growth.
  - C. Reduction in muscle mass.
  - D. Reduction in bone mineral density.
18. Select a functional criteria for return-to-play programme.
- A. Strength must be at least 80% of unaffected side.
  - B. Full pain-free active and passive range of motion.
  - C. Able to perform movement with supported device.
  - D. Able to perform sport specific drills with compensation.
19. Find a component of neuromuscular training.
- A. Endurance training.
  - B. Dynamic stabilization.
  - C. Sport-specific movement.
  - D. Functional stretching exercise.

20. Select the goal of closed-kinetic chain exercise.
- A. To regain full range of motion.
  - B. To improve muscle endurance.
  - C. To isolate training for specific muscle.
  - D. To promote group of muscle contraction.

**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**

- (a) List **FOUR (4)** factors that influence basic metabolic rate (BMR) value. (4 marks)
- (b) Describe aerobic system for energy production. (6 marks)
- (c) "A 20-year-old baseball pitcher presents with a gradual onset of numbness and tingling in the ring and little fingers of his throwing arm following several weeks of intensive training. He also reports reduced grip strength and discomfort along the medial aspect of the elbow, particularly after prolonged training sessions. Clinical findings are consistent with cubital tunnel syndrome."

With reference to the above case, answer all the following questions.

- i. Determine the mechanism and factors that lead to injury. (6 marks)
- ii. Identify **FOUR (4)** suitable treatment. (4 marks)

## Question 2

- (a) "A 26-year-old rugby player presents with recurrent anterior shoulder instability following a tackle sustained during a match. He reports a sensation of apprehension when his arm is positioned in abduction and external rotation, especially during overhead movements or contact activities. Mild pain and weakness are also experienced during play."

With reference to the above case, answer all the following questions.

- i. Explain **TWO (2)** common labral lesions associated with the condition.  
(4 marks)
- ii. Describe **ONE (1)** suitable strapping technique.  
(8 marks)
- (b) Give **FOUR (4)** risk factors for groin injuries.  
(4 marks)
- (c) Describe **TWO (2)** positive findings of Thomas test.  
(4 marks)

## Question 3

- (a) "A sprinter suddenly develops sharp pain with a popping sensation in the posterior thigh during a 100-meter sprint. The pain radiates toward the ischial tuberosity, preventing him from bearing weight on the affected leg. Bruising appears over the posterior aspect of the thigh several hours after the injury."

With reference to the above case, answer all the following questions.

- i. Identify **TWO (2)** common intrinsic factors for the injury. (2 marks)

- ii. Explain **THREE (3)** classifications of the injury. (6 marks)

- iii. Describe **ONE (1)** special test for the injury. (4 marks)

| Test | Patient position | Action | Positive finding |
|------|------------------|--------|------------------|
|      |                  |        |                  |

- (b) List **FOUR (4)** precautions to be taken during physical activities for asthmatics. (4 marks)

- (c) Give **FOUR (4)** factors influencing the rate of decline in  $\text{VO}_2$  max. (4 marks)

## Question 4

- (a) Describe **TWO (2)** factors that may delay return-to-play.

(4 marks)

- (b) "A 22-year-old male rugby player sustained a concussion during a rugby match. He has already been evaluated by a qualified physician, with minimal acute concussion symptoms present."

Explain the Graduated Return-to-Play (G RTP) protocol for his safe reintegration into sport.

(6 marks)

- (c) Describe **TWO (2)** components of neuromuscular training.

(4 marks)

- (d) "A 24-year-old male volleyball player presents with bilateral shoulder pain and a rounded shoulder posture. Physical assessment indicates postural dysfunction contributing to his symptoms."

Determine appropriate stretching and strengthening exercise prescriptions to correct posture and reduce shoulder pain.

(6 marks)

**END OF EXAMINATION PAPER**