



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCE
DEPARTMENT OF REHABILITATION MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY
END OF MAY-AUGUST 2024 TRIMESTER EXAMINATIONS**

UNIT CODE: PHT 312 UNIT NAME: SPORTS PHYSIOTHERAPY (Upgrading)

**DATE: TUESDAY/ 6TH/ AUGUST
TIME: TWO HOURS
START: 6PM STOP: 8PM**

INSTRUCTIONS (physical exams)

- 1. Do not write on this question paper**
(Marks and questions distribution as per program curriculum.)

INSTRUCTIONS (Online examinations)

- 1. This exam is marked out of 70 marks**
- 2. This Examination comprises MCQs**
- 3. This online exam shall take 2 Hours**
- 4. Late submission of the answers will not be accepted**
- 5. Ensure your web-camera is on at all times during the examination period**
- 6. No movement is allowed during the examination**
- 7. Idling of your machine for 5 min or more will lead to lock out from the exam**
- 8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating**
- 9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam**
- 10. In case you have any questions call the invigilator for this exam on Tel. 0705833434 and or the Head of Department on Tel 0720491032**
- 11. For adverse incidences please write an email to: amiu.examinations@amref.ac.ke**

1. Which food group should you eat the most of each day?
 - A. Vegetable
 - B. Grain
 - C. Fruit
 - D. Sweets
 - E. Meats
2. Which nutrient provides you with your first source of energy?
 - A. Protein
 - B. B-vitamins
 - C. Lipids
 - D. Caffeine
 - E. Carbohydrates
3. Which fat is the “healthy” fat?
 - A. Saturated fat
 - B. Trans fat
 - C. Unsaturated fat
 - D. Lard
4. Which of the following is **NOT** a macronutrient?
 - A. Fats
 - B. Carbohydrates
 - C. Water
 - D. Protein
5. Bread, cereal, and grain products provide carbohydrates as well as vitamins and minerals.
 - A. True
 - B. False
6. The pre-competition meal should be high in sugar to give extra energy.
 - A. True
 - B. False
7. Which of the following beverages is the most dehydrating?
 - A. Coffee

- B. Alcohol
 - C. Milkshake
 - D. Coke/Pepsi
8. The amount of fluid intake an individual needs daily depends on the athlete's height, weight, age, gender, and nationality/ethnicity.
- A. True
 - B. False
9. A shift in balance from carbohydrates to protein can help an athlete lose weight while maintaining skeletal muscle mass.
- A. True
 - B. False
10. The cause of Relative Energy Deficiency in Sport (RED-S) and Female Athlete Triad is:
- A. Excess energy intake and insufficient energy output
 - B. Excess energy output and insufficient energy intake
 - C. Insufficient intake of Calcium and Vitamin D
 - D. None of the above
11. Only female athletes are affected by Relative Energy Deficiency in Sport (RED-S).
- A. True
 - B. False
12. Abnormal menstrual cycles, characterized by irregular cycles and/or increased or decreased bleeding, is called:
- A. Amenorrhea
 - B. Eumenorrhea
 - C. Oligomenorrhea
 - D. None of the above
13. Optimal performance and decrease injury risk occur in which stage of the General Adaption Syndrome?

- A. Alarm Reaction Stage
 - B. Resistance Development Stage
 - C. Exhaustion Stage
14. Which of the below symptoms is **NOT** caused by Relative Energy Deficiency in Sport (RED-S)?
- A. Bone stress injuries
 - B. Abnormal menstrual cycles
 - C. Disturbed sleep
 - D. Decreased anxiety
 - E. Slowed growth and development in adolescents
15. A woman will go through perimenopause during the ___ years prior to her last menstrual cycle.
- A. Three
 - B. Four
 - C. Five
 - D. Six
16. Athletes with RED-S have which of the following changes in physical performance
- A. Slower recovery time
 - B. Slower reaction time
 - C. Decreased muscle strength
 - D. No change in VO₂ Max
 - E. All of the above
17. Which of the following should **NOT** be included in the treatment of athletes with RED-S?
- A. Dietician to manage low energy availability
 - B. Psychotherapist to manage disordered eating
 - C. Physiotherapist to manage bone injuries
 - D. Educational interventions for athlete only

- E. Educational interventions for athlete, family, friends, coaches, and teammates
18. You are treating a female track athlete. She reports that her menstrual cycle lasts 29 days. During her period, she bleeds for 5 days and changes her menstrual pad every 3-4 hours. How would you describe her menstrual cycle?
- A. Eumenorrhea
 - B. Oligomenorrhea
 - C. Amenorrhea
 - D. None of the above
19. In Alarm Reaction Stage of General Adaptation Syndrome, delayed onset muscle soreness (DOMS) occurs _____ after the bout of training or competition.
- A. 12-24 hours
 - B. 24-48 hours
 - C. 36-72 hours
 - D. DOMS does not occur in the Alarm Reaction Stage
20. Which of the following are critical components of a thorough screen for Relative Energy Deficiency in Sport (RED-s)?
- A. Questions about diet and food intake
 - B. Questions about menstruation
 - C. Questions about changes in training load
 - D. All of the above
21. A long-term adaptation to environmental stressor (months/years)
- A. Acclimation
 - B. Acclimatization
 - C. Accommodation
 - D. Accumulation
22. Of the various ways that an individual may “Gain Heat”, evaporation plays an important role.

- A. True
B. False
23. Conduction is the transfer of heat from one solid material to another through direct contact like when you sit on a metal bench that has been warmed by the sun.
- A. True
B. False
24. At any given workload (for example running at different treadmill speeds) a person's heart rate will increase beyond the needs for exercise as the environmental temperature increases.
- A. True
B. False
25. Heat risk factors when exercising in the heat include the following. All of the above are considered objectives except _____
- A. Ambient water vapor pressure (humidity)
B. Air temperature
C. Air velocity
D. Clothing
E. Metabolic heat production
F. Sources of radiant heat
G. All of the above are considered objectives
26. Which of the three (3) types of heat illness is described as accompanied by fatigue; dizziness; nausea; vomiting; fainting; weak, rapid pulse and is caused by severe dehydration from sweating; the thermoregulatory mechanisms functional but overwhelmed?
- A. Heat Cramps
B. Heat Exhaustion
C. Heat Stroke
27. People who are by nature "heavy sweaters" are at greater risk for Heat Cramps as compared to the general population.
- A. True

- B. False
28. In hot weather, by not restricting the fluid intake of your athletes during practice you will help minimize the environment related rise in heart rate and core temperature.
- A. True
B. False
29. Which of the follow is **NOT** an effect of acclimation to a hot environment?
- A. Broader distribution of sweating
B. Minimization of sodium (Na^+) ion loss in the urine
C. More dilute sweat
D. Onset of sweating delayed
E. Optimization of evaporative heat loss
30. When comparing the steady state heart rate at any given workload (exercise intensity) during a period of acclimatization to a hot environment we would expect to see the measured heart rate increase (consider day 1 versus day 14).
- A. True
B. False
31. As a rule of thumb, when an athlete perceives that they are thirsty they are already dehydrated.
- A. True
B. False
32. Short-term anaerobic activities, such as performing 100m sprints, are relatively unaffected by increased elevation. In fact, the decreased in relative air resistance might even enhance their performance.
- A. True
B. False
33. When comparing the steady state heart rate at any given workload (exercise intensity) at increasing elevations, we would expect to see the measured heart rate increase.
- A. True
B. False

34. As an adaptation to elevation the body responds by increasing the oxygen carrying capacity of the blood. **Which of the following is correct?**
- A. Decrease in blood volume which will in turn increase hematocrit
 - B. Increased number of oxygen binding sites available on a given red blood cell
 - C. Increased number of red blood cells
 - D. No change to the blood, but an increase in the number of capillaries servicing each muscle cell
35. A headache which worsens with activity is often the first and considered a cardinal symptom of altitude intolerance.
- A. True
 - B. False
36. The ability to successfully adapted to an increase in elevation is primarily driven by the individual's fitness level.
- A. True
 - B. False
37. If a nutritional supplement is bought from a pharmacy (over-the-counter), it is definitely permitted in sport.
- A. True
 - B. False
38. Only athletes competing at the Olympics, Paralympics and World Championships are subject to doping control.
- A. True
 - B. False
39. Regardless of the circumstances, the athlete themselves are ultimately responsible for what they put into their body.
- A. True
 - B. False

40. If an athlete cannot provide the required amount of urine, they will be asked to give a blood test in addition to their urine.
- A. True
 - B. False
41. The maximum number of times an athlete can be tested each year is...
- A. 2
 - B. 5
 - C. 20
 - D. Unlimited
42. If you know that a given supplement has been through a quality control process, you can guarantee your athlete that it does not contain any substances on the prohibited list.
- A. True
 - B. False
43. If the Doping Control Officer (DCO) does not have any identification, I can refuse to be tested.
- A. True
 - B. False
44. When I am sick, I can be excused for taking **ANY** medicine to help me get well?
- A. True
 - B. False
45. A valid test means that the given test will provide repeatable results.
- A. True
 - B. False
46. It is critical that a given test has appropriate normative data otherwise it is of little value in the athletic training model.
- A. True
 - B. False

47. Of the tests that we covered in class which of the following tests would be **BEST** for assessing aerobic capacity in footballers?
- A. Cooper 12-minute run for distance
 - B. 1 mile run test
 - C. The Bleep/Beep test
 - D. Astrand bike test
 - E. Six-minute treadmill test
48. Physical performance tests that do not have associated normative data are of limited value.
- A. True
 - B. False
49. When selecting sports performance testing it is more critical to consider that the test is sport specific versus the skill level, fitness level and age of the athletes being evaluated.
- A. True
 - B. False
50. When determining the order of the items to be included in a test battery, typically sprint/anaerobic fatiguing type tests are placed last.
- A. True
 - B. False