

TEACHERS COLLEGES OF JAMAICA

BACHELOR OF EDUCATION

MAY 2016 – EXAMINATIONS

COMMON PAPER

PHYSICAL EDUCATION

EXERCISE PHYSIOLOGY

[PE 204SEB]

YEAR 4

SECONDARY

TIME: 2 ½ HOURS

INSTRUCTIONS: Candidates are required to answer ALL questions in Section A and any THREE questions from Section B.

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SECTION A [40 MARKS]

Answer ALL questions in this section.

1. a. Explain any THREE conditions that can be classified as cardiovascular diseases. (6 marks)
- b. List FOUR factors that may predispose a person to the diseases mentioned in (a). (2 marks)
2. Diabetes is a chronic lifestyle disease that affects people of all ages.
 - a. Briefly explain what this condition entails. (2 marks)
 - b. Differentiate between the TWO main types of diabetes. (4 marks)
 - c. Propose TWO actions that can be used to improve the health of a person with one of the types mentioned in (b). (2 marks)
3. a. Calculate the Body Mass Index for the following subjects: (3 marks)
 - i) John 53 kg & 1.65 m
 - ii) Carla 85 kg & 1.74 m
 - iii) Malcolm 90 kg & 1.50 m

Underweight	<18.5
Normal weight	18.5-24.9
Overweight	25-29.9
Obesity	30 or greater

- b. Using the table above, state which of the following subjects in (a) is classified as: (2 marks)
 - i) Normal weight
 - ii) Obese
4. A gymnast during her training employs various guidelines to improve the different components of her physical fitness.
 - a. Describe THREE specific components of physical fitness that are important in the gymnast's training. (6 marks)
 - b. Briefly explain TWO principles of training that the gymnast could take into consideration for her training. (4 marks)

5. a. Macronutrients are required in large quantities and are used as substrates for energy metabolism. State THREE functions of macronutrients before, during or after exercise. (3 marks)
- b. Magnesium is considered as micronutrient. State its importance in the diet of an athlete. (2 marks)
6. a. A triathlete completes a marathon in two hours and twenty-five minutes. Identify the dominant energy system that was employed to complete the marathon. (1 mark)
- b. Justify your answer at (a) by briefly outlining what the energy system entails. (3 marks)

SECTION B [60 Marks]

Answer ANY THREE questions in this section.

7. Discuss FIVE major ways in which speed and power training affects the musculoskeletal system of a sprinter to facilitate optimal performance. (20 marks)
8. Discuss any FIVE physiological and histological adaptations that are realized in the cardiovascular system due to prolonged exposure to aerobic training. (20 marks)
9. Physical and mental activities improve brain and nervous system functions. Argue the statement from a physiological perspective. (20 marks)
10. Advise a group of senior citizens on the effects of regular exercise on any FOUR systems of the body in regards to the aging process. (20 marks)
11. You are a coach seeking to expose your athletes to training in different environments in order to improve their performance. Advise them on short and long term effects of training at 5000-8000 feet above sea level. (20 marks)

END OF EXAMINATION