

**Anatomy and Physiology**

14. (a) A player is kicking a ball using his right foot. Describe how EACH of the following parts of the skeletal system supports the lower body during this movement.
- (i) Femur
  - (ii) Pelvic girdle
- (b) Describe FOUR effects of exercise on the skeletal system.

( 4 marks)

( 8 marks)

**Total 12 marks**

**Fitness and Performance**

15. (a) (i) The training year is divided into THREE seasons or periods. Name EACH of the THREE seasons or periods.
- (ii) For any ONE of the seasons or periods named in (a) (i) above, outline the activities that are done by an athlete.
- (b) A trained individual is in a better state of physical fitness than a person whose lifestyle is inactive. State FIVE characteristics of the trained individual.

( 3 marks)

( 4 marks)

( 5 marks)

**Total 12 marks**

(b) The femur <sup>allows</sup> ~~holds~~ the movement ~~to~~ to successfully take place. The femur ~~allows~~ the the ~~direction~~ ball only to go in one direction since movement is only in one plane. The femur supports the weight of the leg.

14 (b) Four effects of exercise on the skeletal system are:-

(i) compact ~~bone~~ ~~become~~ bone made of calcium cement becomes harder and stronger

(ii) increased production of hyaline cartilage for the epiphysis which reduces friction between the joints

(iii) flexibility of joints, allowing us to reach <sup>or</sup> move out of our normal range of movement

(iv) Increased production of white blood cells in the marrow cavity of the bone and red blood cells in the spongy bone as exercise allows for bone growth, which eventually decreases the growth plate

15 (i) The three seasons of a training year are pre-season, peak-season and off-season.

(ii) In the pre-season, there is much more focus on applying skilful tactics than in off-season but less than in the peak-season. An athlete focuses on acquiring proper techniques and skills and working on muscular power, strength and endurance.

15 b) Five characteristics are of a trained individual are:

- ① Efficient cardiovascular system which is beneficial in the prevention of diseases.
- ② ~~efficient~~ increased aerobic and anaerobic fitness
- ③ increased rate of metabolism in people.
- ④ increased cardiac output
- ⑤ a more efficient respiratory system which increases amount of energy production and decreases lethargy.

# Physical Education and Sport

## Paper 01 – May 2011

### Comments

#### Question 14 (a):

The candidate showed some general understanding, although not accurate, of the skeletal system and its major role of support in the production of this movement.

#### Question 14 (b):

The description of benefits of exercise on the skeletal system is acceptable with the emphasis on general strengthening. Full marks were received due to the wide range of effects offered.

#### Question 15 (a) (i):

The candidate identified three seasons for the full marks.

#### Question 15 (a) (ii):

This answer presents a satisfactory reflection of the narrowed focus on the specifics and competition applications characteristics of the peak season.

#### Question 15 (b):

The listing of these specific characteristics shows a satisfactory recognition of the characteristics of the trained individual.