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SUBJECT:	<b>Physical Education</b>
DATE:	11 <sup>th</sup> June 2021
TIME:	9:00 a.m. to 11:35 a.m.

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This examination paper has **FOUR** sections. Answer **ALL** sections. Follow instructions given in each section.

**Section A: Rules, Tactics and Techniques:**

You will be shown a total of **FIVE** short clips in the following order:

- ✓ 2 clips on Rules
- ✓ 2 clips on Technique
- ✓ 1 clip on Tactics

The clips are taken from the European Championship for small countries San Marino 2018.

Step 1: Read through all the questions.

Step 2: The first clip on rules is played. The same clip is replayed immediately after.

Step 3: One minute is given to answer the question between clips.

Step 4: On a signal, the second clip is played, and replayed. The other clips will follow the same pattern.

Step 5: One minute is given to answer each clip. The same procedure is used throughout Techniques and Tactics. After the clips are all played, and the answering time is over, all the clips are replayed one last time. Candidates are given a final four minute period to make changes and finalise answers.

**Section B: Anatomy & Physiology – Answer all questions.**

**Section C: Acquiring Movement Skills – Answer all questions.**

**Section D: Socio-Cultural Studies – Answer TWO out of three questions.**

**SECTION A: RULES, TACTICS AND TECHNIQUES**

Answer **ALL** the questions. This section carries **10** marks.

The below video clips are taken from a badminton game taking place during the LI-NING Czech open between the Austrian Leon Seiwald (light blue top) and the Maltese Matthew Abela (in dark blue).

**Rules**

1. During this action the score is love all.
  - a. With this score, on which side (left or right) does the receiver stay to receive the serve? (1)
  - b. Mention another rule related to the service. (1)
2. In this instance a service fault was called.
  - a. Give **ONE** possible reason for a service fault. (1)
  - b. Briefly describe what happens in this circumstance. (1)

**Technique**

3. Leon Seiwald, (in light blue top) managed to apply more than one defensive stroke during this action.
  - a. Mention **ONE** defensive stroke used during this action by Leon Seiwald. (1)
  - b. Briefly give a reason why Leon Seiwald used this stroke. (1)
4. a. Mention **ONE** attacking stroke used by Matthew Abela (dark top) during this action. (1)
- b. Mention **ONE** critical element of this skill (1)

**Tactics**

5. Leon Seiwald (light blue top) delivers a short serve and the receiver returns a clear. Why is this clear a good tactical choice? (2)

**(Total: 10 marks)**

**SECTION B: ANATOMY & PHYSIOLOGY**

Answer **ALL** the questions. This section carries **35** marks.

6. a. The bones of the skeleton can be divided into two distinct categories. One of these categories is the axial skeleton.
  - i) Give **ONE** example of a bone in the axial skeleton category. (1)
  - ii) Mention the other category of bones and give **ONE** example from the mentioned category. (2)
- b. Joints are very important in human movement. For example, at the beginning and end of a basketball dribble we can see pronation and supination at the radio-ulnar joint. Define which action takes place in the following examples during a game of basketball:
  - i) Action at the knee when taking off to win a defensive rebound; (1)
  - ii) Action at the ankle when landing back on the foot after winning the rebound; (1)
  - iii) Action at the elbow during the execution of a set shot; (1)
  - iv) Action at the wrist during the wrist snap of a shot; (1)
  - v) Action at the shoulder when pulling the ball towards your chest. (1)

- c. Movement is initiated by the agonist muscle, which contracts to allow movement. What is the role of fixator muscles? (2)
- d. The first phase of a warm-up usually includes some form of cardiovascular exercise. Mention **TWO** reasons why cardiovascular exercise is included in a warm-up. (2)
7. a. The heart is myogenic and the conduction system of the heart spreads impulses throughout the heart. This enables the heart to contract.
- i) Briefly explain the term myogenic. (1)
  - ii) What determines the heart rate? (1)
  - iii) How is excitation distributed from the atria and spread throughout the ventricular walls? (2)
  - iv) There is a slight delay in the distribution of action potential throughout the ventricles. Why is this important? (1)
- b. Physical exercise has an impact on cardiac dynamics. For example, your heart rate will increase with exercise.
- i) The rate at which your heart rate increases during exercise is mainly influenced by what? (1)
  - ii) During submaximal exercise, the heart rate can reach a steady state. Why does the heart rate go into a steady state? (1)
  - iii) Heart rate can also increase before exercise, even though physical activity has not started yet. What is this called? (1)
  - iv) Mention **TWO** reasons why stroke volume increases during exercise. (4)
8. a. Various factors help with respiratory regulation. Describe how the following help with respiratory regulation.
- i) Proprioceptors; (1)
  - ii) Chemoreceptors; (1)
  - iii) Thermoreceptors. (1)
- b. Alveoli are very important structures in the respiratory system. They enable the exchange of gases between the lungs and the blood.
- i) What kind of cells make up the alveolar walls? (1)
  - ii) These cells have a thin lining. What is this thin lining made up of? (1)
  - iii) What is this thin lining responsible for? (1)
- c. At high altitude, the movement of oxygen from arterial blood into the body's muscles is reduced.
- i) Explain what causes this. (4)
  - ii) The body tries to adapt when training at altitude. What changes related to blood happen in the human body? (1)

**(Total: 35 marks)**

***Please turn the page.***

**SECTION C: ACQUIRING MOVEMENT SKILLS**

Answer **ALL** questions. This section carries **20** marks.

This section focuses on two skills during sport: the basketball dribble in open play and the volleyball serve at the start of a point

9. A performance is generally ideally described as a "skilled" one.
- Mention **FOUR** characteristics which indicate the quality of a volleyball serve. (2)
  - Mention a gross motor ability required for performing the basketball dribble. (1)
  - Evaluate how the two skills mentioned above are classified on the open/closed, discrete/serial/continuous and internally/externally paced continuum. (6)
10. A volleyball coach is teaching the service to beginner players by demonstrating it and drawing attention to the timing of the ball.
- What type of guidance is this called? (1)
  - Give **ONE** advantage and **ONE** disadvantage when using the type of guidance mentioned in (a) above. (2)
11. Serial processing is when information is processed in stages. Parallel processing is when processes occur at the same time.
- Compare the types of process which apply to the basketball dribble and volleyball serve, giving examples of the possible information being processed. (4)
  - Discuss whether transfer of learning of a skill can be applied from knowledge of a volleyball serve to learning the basketball dribble. (4)

**(Total: 20 marks)**

**SECTION D: SOCIO-CULTURAL STUDIES**

Answer **TWO** questions. Each question carries **7.5** marks. This section carries **15** marks.

12. Outdoor and adventurous activities take place in the natural environment.
- Give **ONE** example of an outdoor and adventurous activity. (½)
  - Explain why a 'Risk Assessment' within the context of the organisation of an outdoor and adventurous activity is important. (3)
  - Describe **ONE** factor which restricts participation in outdoor activities in Malta. (1)
  - Discuss how you can adapt the urban environment to learn the basic skills of some of these activities. (3)
13. The Tokyo 2020 Olympics have been postponed to 2021.
- Describe the Olympic symbol. (½)
  - State **ONE** role of an NOC (National Olympic Committee) of a country. (1)
  - Mention **TWO** reasons why athletes are motivated to participate in the Olympic Games. (2)
  - Discuss barriers which affect physical activity levels of young people. (4)
14. The MOC is committed to "encourage, promote and fund" the participation of Maltese athletes in International games.
- Describe a programme which MOC has in place to support Maltese elite athletes. (2)
  - Give **TWO** reasons why an athlete may resort to doping and explain why such reasons are not justifiable. (5)
  - Give **ONE** example of an International Federation and the sport it represents. (½)

**(Total: 15 marks)**