The EverLearner

Model Answers

OCR A-Level PE - Exercise Physiology

(Revision session on Monday 9th May 2022, 4.00-5.30pm)

This document contains:

- Model answers for the Practice Questions answered during the 2022 Revision series
- Questions in AEI order
- Where possible, examples of extended writing
- No one-mark or multiple-choice questions

How should schools use these papers?

This paper has been constructed specifically for use in preparation for and during the live revision shows provided by James Simms in May 2022. I encourage students to attempt the questions in advance of the revision shows.

Please, use these model answers in combination with the mark scheme and the revision session, available in the OCR A-Level PE Revision page (https://pages.theeverlearner.com/2022-ocr-a-level-pe-revision).

All questions are taken from ExamSimulator. Please note, there are hundreds of additional questions on ExamSimulator covering the AEI topics. ExamSimulator is a premium resource available via TheEverLearner.com.

I hope this helps both students and teachers in their exam preparations.

James Simms

1. Identify the type of athlete that might be tempted to blood dope.

A road cyclist.	No comments provided.
	Marks:[1/1]

2. Explain how blood doping is carried out.

Blood is removed from the cyclist about one month before competition and the red blood cells are extracted and frozen. Shortly before the competition, the RBCs are thawed, mixed with saline and transfused.	No comments provided.
	Marks:[3/3]

3. Identify one advantage **and** one disadvantage of blood doping.

Blood doping increases haematocrit. A disadvantage is that, if caught, the athlete will be banned for two years.	**No comments provided.**
	Marks:[2/2]

4. Endurance athletes might use IHT as an ergogenic aid.
Describe IHT.

IHT is (1) intermittent hypoxic training by wearing a (2) hypoxic mask when training. This causes a (3) lower partial pressure of oxygen and challenges the body to work at high intensity with less oxygen available which causes aerobic adaptations.	No comments provided.
	Marks:[3/3]

5. Identify one advantage **and** one disadvantage of IHT.

IHT causes the growth of more red blood cells and, therefore, an increased oxygen carrying capacity of the blood. However, wearing a mask can seriously limit the types of training that can be done and runners, for example, are forced to use treadmills.	No comments provided.
	Marks:[2/2]

6. Identify the main type of strength used by an Olympic weightlifter and describe **one** weight training session an Olympic weighlifter would take part in.

Weightlifters rely on (1) maximal strength. A session would be with (2) free weights and the intensity would be (3) 90% 1rep max. The athlete would perform (5) 5 sets of (4) 4 reps with a (6) 3 minute recovery window between sets. The session must have a minimum work relief ratio of (7) 1: 3.	No comments provided.
	Marks:[5/5]

7. Explain why circuit training is often used by sports teams to develop strength endurance.

1 Stations can be timed for longer periods such as 60 seconds to focus on strength endurance. Furthermore, circuit training is 2 excellent with large groups of athletes but 5 requires relatively little equipment. Finally, circuits 6 can incorporate skills as well as fitness.	No comments provided.
	Marks:[3/3]

8. Explain how a trainer uses PNF training with their athletes as a means of increasing flexibility.

PNF inhibits the stretch reflex because muscle spindles are inhibited by this technique. An assistant will stretch the muscle with a passive stretch and then the assistant will resist an isometric contraction of the agonist. The muscle is then relaxed before being stretched through a greater RoM. This can be repeated up to 5 times for ever increasing RoM.	No comments provided.
	Marks:[5/5]

9. Evaluate PNF stretching as a method of improving flexibility.

A strength is that it is very effective and does cause quick gains in flexibility. It is also practical because it can be done during a cool down from training when the body is warm. However, it is more technical than other stretches and also takes far longer to perform.	No comments provided.
	Marks:[4/4]

10. Evaluate the use of **heat therapy** as an injury rehabilitation technique.

1 Vasodilation of blood vessels decreases resistance and 2 increases blood flow. This can decrease muscle stiffness and 3 limit pain. However, heat therapy is 5 not advisable after an acute injury as it can 4 increase swelling.	No comments provided.
	Marks:[4/4]

11. Explain why non-steroid anti-inflammatory drugs (NSAIDs) are often used following an acute injury.

NSAIDs prevent chemical release after an injury and act to inhibit the inflammatory response of the body. They also interfere with pain signals as well as reduce body temperature which helps with swelling.	No comments provided.
	Marks:[3/3]

Feedback:

No feedback provided.