Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

ADVANCED SUBSIDIARY GCE

2562

PHYSICAL EDUCATION

The Application of Physiological and Psychological Knowledge to Improve Performance

TUESDAY 19 MAY 2009: Morning
DURATION: 1 hour 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

DC (SLM) OV90622 10293

INSTRUCTIONS TO CANDIDATES

- **Write your name in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **Answer ALL the questions.**
- **Write your answer to each question in the space provided.**
- **Additional answer space is available on the lined pages at the back of this booklet. Answers on these pages MUST be clearly numbered.**

INFORMATION FOR CANDIDATES

- **The number of marks for each question is given in brackets [ ] at the end of each question or part question.**
- **The total number of marks for this paper is 60.**

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SECTION A

APPLICATION OF ANATOMICAL AND PHYSIOLOGICAL KNOWLEDGE TO IMPROVE PERFORMANCE

1 (a) Fig. 1 shows a gymnast during a routine on the beam.

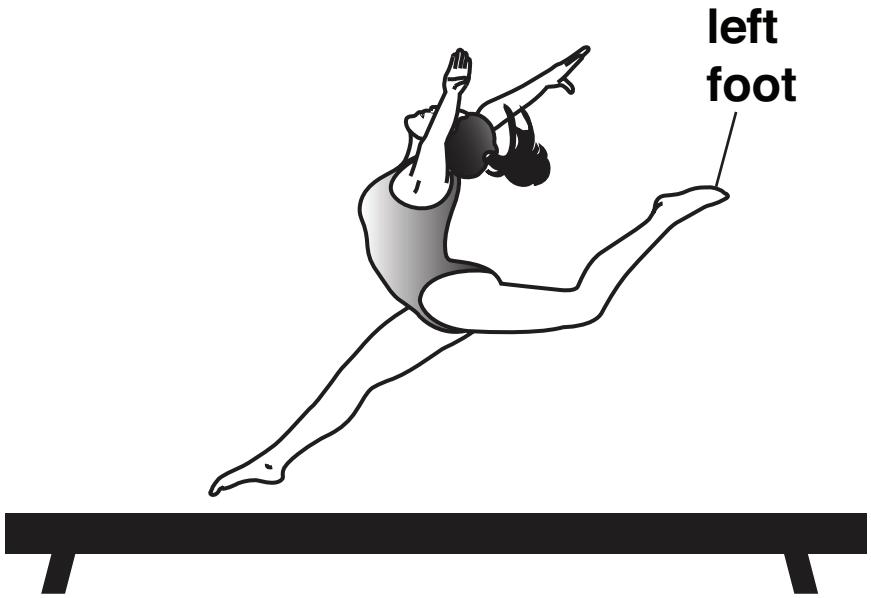

Fig. 1

(i) Using your anatomical and physiological knowledge, identify the type of joint, articulating bones, agonist and antagonist muscles of the gymnast's left ankle.

Joint Type: _____

Articulating Bones: _____

Agonist Muscle: _____

Antagonist Muscle: _____ **[4]**

(ii) Name ONE strength training exercise that the gymnast could use to develop the rectus femoris and ONE to develop the deltoids.

Rectus Femoris: _____

Deltoids: _____ [2]

(iii) When completing the landing phase of a vault, a gymnast must use the muscles around the knee to control the landing. What type of contraction is occurring in the rectus femoris during the landing?

Type of contraction: _____ [1]

(b) Give two functional characteristics of a Type IIb, fast glycolytic muscle fibre.

Function 1: _____

Function 2: _____ [2]

(c) How would a warm up affect the vascular system of the gymnast?

_____

_____

_____

_____

_____

_____

_____

_____ **[3]**

(d) Describe the effects of altitude on the respiratory system.

_____

_____

_____

_____

_____

_____

_____

_____ **[3]**

[Total: 15]

2 (a) (i) More oxygen diffuses from the muscle capillaries to the muscle tissue during exercise than at rest. Describe how this occurs.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ **[4]**

(ii) During exercise the heart must increase blood flow to the working muscles to enable effective performance. Describe how the intrinsic mechanisms control the increased blood flow.

_____

_____

_____

_____

_____

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_____

_____ **[3]**

(iii) Define the term Cardiac Output and identify the values you would expect from an athlete at rest and during maximal exercise.

Definition: _____

_____

Resting Value: _____

Maximum Value: _____ **[3]**

(b) During exercise minute ventilation of the lungs increases in order to supply the working muscles with more oxygen.

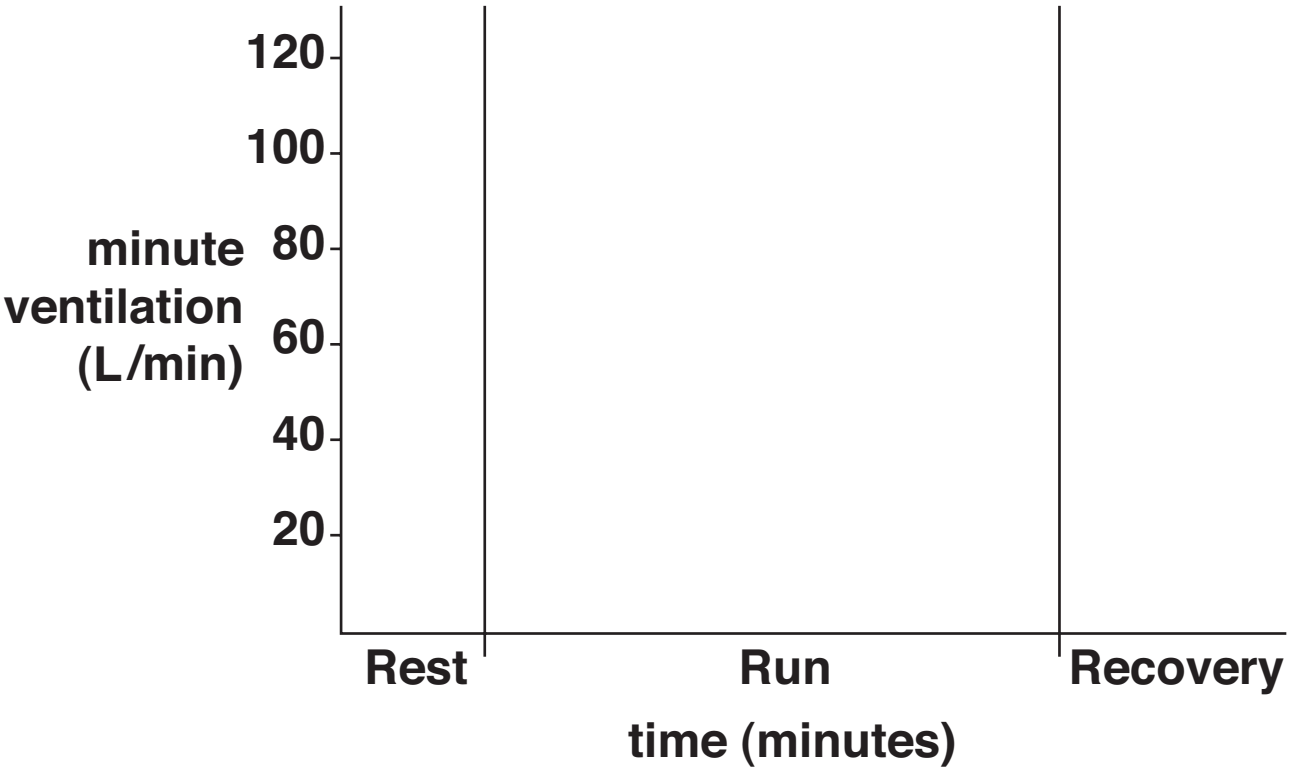
(i) Define minute ventilation (VE).

_____

_____ **[1]**

(ii) Draw a graph below to show the minute ventilation of an athlete performing a 30 minute sub-maximal training run;

- **At rest**
- **During the 30 minute sub-maximal training run**
- **Ten minute recovery period** **[4]**



[Total: 15]

SECTION B

ACQUIRING AND PERFORMING MOVEMENT SKILLS

3 (a) Abilities play an important part in Physical Education and sport.

(i) Identify TWO characteristics of abilities.

_____

_____

_____

_____ **[2]**

(ii) Give an example of a gross motor ability and describe its use in Physical Education or sport.

_____

_____

_____

_____ **[2]**

(b) A sports performer can use cognitive, motor and perceptual skills.

Use a practical example to explain perceptual skills.

_____

_____

_____

_____ **[2]**

(c) The learning of physical skills can be said to progress through three phases.

(i) Identify the characteristics of the cognitive phase of learning.

_____

_____

_____

_____

_____

_____ **[3]**

(ii) Use practical examples from Physical Education or sport to describe two different types of guidance that can be used during the cognitive phase of learning.

_____

_____

_____

_____ **[2]**

(d) Movement skills can be classified by a variety of different continua.

(i) Describe the self paced and externally paced classifications.

Self paced _____

_____

Externally paced _____

_____ **[2]**

(ii) Use practical examples to describe discrete and serial skills.

Discrete _____

_____

Serial _____

_____ **[2]**

[Total: 15]

4 (a) Use practical examples to illustrate <u>THREE</u> characteristics of skilful performance.

_____

_____

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_____

_____

_____

_____

_____ **[3]**

(b) Memory plays an important part in the performance of physical skills.

Identify characteristics of the short term memory.

_____

_____

_____

_____

_____

_____ **[3]**

(c) The learning and performance of movement skills can be improved with feedback.

(i) Why is an advanced performer able to use kinaesthetic feedback?

_____

_____

_____

_____ **[2]**

(ii) Use a practical example to explain intrinsic feedback.

Intrinsic _____

_____

_____

Explain extrinsic feedback.

Extrinsic _____

_____

_____ **[3]**

(d) Use practical examples to explain schema theory.

_____

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_____

_____

_____

_____ **[4]**

[Total: 15]

If you use these lined pages you MUST write the question number next to your answer.