Please write your NAME and your MEG grade below.

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| **Name :** | **MEG :** |
| **Total** |  **/ 37** | **%** |  | **Grade**  |  |
| **Staff Comments :** **+****-** |
| **Student Comments :**  |

**Please make sure that you :**

* Read the question repeatedly & INTERPRET IT correctly (verb (s) to tell you HOW to write; general topic are, the specific things within that area to be included); how many parts of the question are there; how many marks are available.
* Write clearly so work can be read! Write within the boxes (the summer papers are marked online and content outside boxes cannot be read!).
* IF you have time to, read through your work to check for content and quality.
1. The skeletal pump mechanism is one way of helping to maintain venous return.

 *Describe* **three** other mechanisms involved in venous return.

 *Explain* the importance of the skeletal pump mechanism during an active cool-down.

**[5]**

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2 Which one of the following muscles contracts during the forced expiration of air?

 Put a tick () next to the correct answer. **(1)**

**A.** Diaphragm

**B.** Rectus abdominis

**C.** External intercostals

**D.** Scalene

3 During exercise the mechanics of breathing change.

 Explain the role of the sternocleidomastoid muscle in respiration during exercise. **(4)**

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**4.** *Describe* the short term effects of exercise on gas exchange at the alveoli.  **[4]**

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1. *Define* minute ventilation and give an average value during maximal exercise. **( 2 marks)**

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1. Minute ventilation is defined as the volume of air inspired or expired in one minute.

**(4 marks)**

Sketch a graph below to show the minute ventilation of a swimmer completing a 20-minute submaximal swim. Show minute ventilation: prior to the swim, during the swim, for a ten minute recovery period.



1. Explain how the respiratory centre uses neural control to produce changes in the mechanics of breathing. **[4 marks]**

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1. Efficient respiration is an important factor for effective performance in sport. Describe in detail the process of gaseous exchange either at site A lungs: at site B working muscles. **(4 marks)**

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1. How is oxygen exchange *increased* at the muscle tissues (gas diffusion) during the training run? Why is this beneficial to performance? **(5 marks)**

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The performer has moved from an anatomical position into the frontal raise. (4)

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| Joint  | Joint Type  | Movement  | Agonist  | Antagonist  |
| **Hip**  |  |  |  |  |

 **(4)**