**MBBS/BSc Year 1 LCRS Self-Assessment**

**May 2013**

This self-assessment paper contains:

2 Short Answer Questions (SAQs)

To reflect the summative exam time allotted for SAQs, spend approximately 20 minutes on answering these questions

8 Single Best Answers (SBAs)

To reflect the summative exam time allotted for SBAs, spend approximately 10 minutes on
answering these questions

Model answers will be issued on the intranet/Blackboard for you to review in one week’s time.

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| SAQ 1  | **Examiner Use Only** |
| **A.** List **2** principal target organs for parathormone (PTH) and identify one action at each site.*(4 marks)***B.** Draw a labelled flow diagram illustrating the synthesis of the hormone calciferol (dihydroxycholecalciferol) from its initial precursor 7-cholesterol. Identify relevant catalytic agents, molecules and organs/tissues. *(4 marks)***C**. Identify the major target organ/tissue for calciferol and list its **2** principal effects here. *(1½ marks)***D**. Name the polypeptide hormone from the thyroid which stimulates renal calcium excretion.*(½ mark)* |  |
|  | **TOTAL MARK** |

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| **SAQ 2**  | **Examiner Use Only** |
| examcortdiagThis is a diagram of the lateral surface of the left cerebral hemisphere.(i). Name the labelled sulci. (*2 marks)***A:** **B:** (ii). Draw and label the position of the primary somatosensory cortex and primary visual cortex on the diagram. *(2 marks)*(iii). Name cortical area **C** and briefly explain the effect of a lesion here. *(2 marks)*(iv). A patient has an epileptic focus located in the cortex at **D.** What behavioural change would you expect to observe during a complex partial seizure? *(4 marks)* |  |
|  | **TOTAL MARK** |

**SBAs** *select the* ***single******best*** *answer for each numbered item 1 to 8 below*

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| 1. | Androgens: |
|  | a) | Are produced by the adrenal medulla |  |
|  | b) | May be converted into oestrogens in certain tissues |  |
|  | c) | Has glucocorticoid actions |  |
|  | d) | Acts via G-protein coupled receptors |  |
|  | e) | Have catabolic effects on protein |  |

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| 2. | Angiotensin II: |
|  | a) | Is converted from angiotensin I by renin |  |
|  | b) | Is a precursor of angiotensinogen |  |
|  | c) | Stimulates cortisol release from the adrenal cortex |  |
|  | d) | Acts directly on the zona fasciculata |  |
|  | e) | Is a powerful vasoconstrictor  |  |

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| 3. | Which of the following suppresses somatotrophin (growth hormone) secretion? |
|  | a) | Somatostatin |  |
|  | b) | Hypoglycaemia |  |
|  | c) | Ghrelin |  |
|  | d) | Oestrogen |  |
|  | e) | Amino acids |  |

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| 4. | Tri-iodothyronine: |
|  | a) | Is the main product of the thyroid gland |  |
|  | b) | Inhibits the actions of catecholamines |  |
|  | c) | Inhibits thyrotrophin release |  |
|  | d) | Has a half-life of greater than 7 days |  |
|  | e) | Inhibits vitamin A synthesis |  |

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| 5. | Which of the following statements about the PNS is correct? |
|  | a) | The limbs are innervated by dorsal rami of spinal nerves |  |
|  | b) | The brachial plexus supplies the lower limb |  |
|  | c) | The nerves are surrounded by endoneurium  |  |
|  | d) | The axons are myelinated by oligodendroglia |  |
|  | e) | The area of skin innervated by a single spinal nerve is called a dermatome |  |

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| 6. | The basal ganglia are located in the: |
|  | a) | Brainstem |  |
|  | b) | Cerebral hemispheres |  |
|  | c) | Diencephalon |  |
|  | d) | Peripheral nervous system |  |
|  | e) | Midbrain |  |

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| 7. | In the ANS: |
|  | a) | Sympathetic activity dilates the pupil of the eye  |  |
|  | b) | Preganglionic sympathetic motoneurones use the neurotransmitter noradrenaline |  |
|  | c) | Sympathetic activity constricts the bronchioles of the lungs |  |
|  | d) | Parasympathetic activity causes ejaculation |  |
|  | e) | Parasympathetic activity increases total peripheral resistance |  |

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| 8. | Astrocytes: |
|  | a) | Strip synapses from neurons |  |
|  | b) | Take up glutamate |  |
|  | c) | Line the ventricles of the brain |  |
|  | d) | Are involved in antigen presentation |  |
|  | e) | Support the metabolism of dorsal root ganglion cells |  |