

# COMMONWEALTH OF AUSTRALIA

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Family Name	
Given Names	
Student Number	
Teaching Period	Semester 1, 2016

<b>FINAL EXAMINATION</b>	<b>DURATION</b>				
<b>SPE210 – Motor Control and Development</b>	<table border="1"> <tr> <td>Reading Time:</td> <td><b>10</b> minutes</td> </tr> <tr> <td>Writing Time:</td> <td><b>120</b> minutes</td> </tr> </table>	Reading Time:	<b>10</b> minutes	Writing Time:	<b>120</b> minutes
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**INSTRUCTIONS TO CANDIDATES**

The examination is divided into three (3) sections. Attempt all questions.

Section A. Multiple Choice. 40 Marks. Answer on examination.

Section B. Short Answers. 40 marks. Answer on examination.

Section C. Short Essays. 40 Marks. Answer on 8 page booklet provided and indicate which questions are answered.

Total marks equal 120 marks.

**EXAM CONDITIONS**

**You may begin writing from the commencement of the examination session.** The reading time indicated above is provided as a guide only.

This is a CLOSED BOOK examination

No calculators are permitted

No handwritten notes are permitted

No dictionaries are permitted

<b>ADDITIONAL AUTHORISED MATERIALS</b>	<b>EXAMINATION MATERIALS TO BE SUPPLIED</b>
No additional printed material is permitted	1 x 8 Page Book

**THIS EXAMINATION IS PRINTED  
DOUBLE-SIDED.**

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BLANK.**

**SECTION A**

**Multiple Choice Questions**

**Total Marks for this section: 40 marks**

Circle the letter (a), (b), (c) or (d) that represents the correct answer on this examination paper. Please ensure that your name and student number have been written on the examination paper.

Marks for each question are indicated. Suggested time allocation for Section A: 40 minutes

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**This is the end of Section A. Total 40 marks**

**Please ensure that you have written your name and student number on your answer sheet.**

Name \_\_\_\_\_

Student Number \_\_\_\_\_

**SECTION B**

**Short Answer Questions**

**Total Marks for this section: 40**

Marks for each question are indicated. Suggested time allocation for Section B: 40 minutes

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**Question 41**

Explain the difference between motor learning, motor behaviour and motor control.

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(Marks: 4)

**Question 42**

Explain the benefits of massed practice for learning a new skill and provide an example to support your explanation.

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(Marks: 4)

**Question 43**

Explain the major difference between the concept of a motor program and a central pattern generator. Provide examples of each concept to support your answer.

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(Marks: 2)

**Question 44**

Explain the major concepts associated with transfer of motor skill learning from one motor skill to another. What factors would improve the transfer of learning in this context.

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(Marks: 3)

**Question 45**

Each of the following statements has **TWO (2)** terms underlined. **CIRCLE THE CORRECT UNDERLINED** term to complete each sentence.

- i) The flexor reflex is initiated by a light touch / painful stimulus.
  
- ii) 90% of fibres in the corticospinal tract travel down contralaterally / ipsilaterally from the cortex and then decussate at the medulla.
  
- iii) Stretch reflexes maintain muscle tone / strength in large postural muscles.
  
- iv) Nerves that carry impulses towards the central nervous system only are afferent / efferent nerves.
  
- v) As the velocity of a muscle contraction increases, the force produced increases / decreases.

(Marks: 5)

**Question 46**

Explain Fitt's law as it relates to speed-accuracy trade-offs. Include a graph showing the relationship and the formula/algorithm describing the relationship.

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(Marks: 4)

**Question 47**

Explain the difference between a motor skill and motor ability and provide examples of both concepts.

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(Marks: 4)

**Question 48**

Describe the characteristics of the fixation and autonomous stages of learning.

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(Marks: 4)

**Question 49**

Briefly define positive reinforcement and negative reinforcement. Give an example of how a teacher/instructor might apply each of these concepts during a student learning a new motor skill. You select the new motor skill for your examples.

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(Marks: 6)



**Question 50**

Explain the five benefits of practice as identified by Schmidt and Lee (2014) Motor learning and Performance.

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(Marks: 4)

**This is the end of section B. Total 40 marks**

**Please ensure that you have written your name and student number on your exam booklet.**

## SECTION C

### Short Essay Questions

**Total Marks for this section: 40**

This section should be answered in the Answer Booklet provided.

You may use diagrams to help answer the questions.

Marks for each question are indicated. Suggested time allocation for Section C: 40 minutes

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#### Question 51

List and describe the **FOUR (4)** main factors that influence reaction time and provide examples of each factor.

(Marks: 10)

#### Question 52

Plan an effective training session for someone in the Fitts and Posner cognitive stage in motor learning. You should consider the scheduling of the practice, the appropriate type of feedback, instructions and motivation, and also the type of skill being practised. You may use tables, figures and a specific example to illustrate your answer.

(Marks: 10)

#### Question 53

Explain the differences between closed loop and open loop models that describe human motor behaviour and provide examples from sport to support your answers.

(Marks: 10)

#### **Question 54**

Explain the following concepts, which are whole versus part learning, massed versus distributed practice and blocked versus random practice. Provide examples from human movement to support your answers.

(Marks: 10)

**This is the end of section C. Total 40 marks**

**Please ensure that you have written your name and student number on your exam paper and answer booklet.**