

Ollscoil na hÉireann, Gaillimh
National University of Ireland, Galway

GX 2533

Semester I Examinations, 2003/2004
Front Page Template

Exam Code(s) 3BS9
 3BO2
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Exam(s) 3rd Science
 3rd Biomedical Science
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Module Code(s) SI321
.....
Module(s) SI311 - Neurophysiology
 SI312 - Endocrinology
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Paper No. ..
Repeat Paper ..
.....
External Dr. D. Marples
Examiner(s) ..
Internal Prof. M.T. Kane, Dr. K.. Doyle
Examiner(s) ..
 Dr. A. Hynes, Dr. L. Quinlan
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Instructions:

Answer 3 questions out of 4 in each section
Please Use Separate Answer Books For Each
Section

Duration Three hours
No. of Answer Two
books

Requirements:

Handout ..
MCQ ..
Statistical Tables ..
Graph Paper ..
Log Graph Paper ..
Other Material ..

No. of Pages 2 (3 including front page template)
Department(s) Physiology
.....

OLLSCOIL NA hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY

B.Sc. (General), Third Science and Third Biomedical Science Examination

Semester I, Winter 2003

PHYSIOLOGY

Time Allowed: Three hours

Examiners: Dr D Marples, Prof. MT Kane, Dr. K Doyle,
Dr L Quinlan and Dr A Hynes

Please Use Separate Answer Books For Each Section

SECTION A

NEUROPHYSIOLOGY (SI311)

Answer **THREE** Questions out of **FOUR**

A1: Write Short Notes on TWO of the Following

- (a) Synaptic transmission in the CNS Vs the neuromuscular junction.
- (b) Somatosensory pathways in the body.
- (c) The role and mechanism of action of the Pacinian corpuscle

A2: Write Short Notes on TWO of the Following

- (a) Briefly compare the effects of the sympathetic and parasympathetic systems on the following organs: (i) the heart and (ii) the gastrointestinal tract
- (b) Draw and label the two neuron motor system of the autonomic nervous system. Insert the names of the ordinary neurotransmitters in their correct positions. Give examples of the use of agonists and antagonists of these autonomic system neurotransmitters to modify body function.
- (c) Describe the body's response to excessive ambient temperature.

A3: Write Short Notes on TWO of the Following

- (a) The role of gamma-motoneurons in muscle spindle functioning
- (b) The primary motor cortex
- (c) Photopigment activation in the retina

A4: Write Short Notes on TWO of the Following

- (a) Vestibulo-ocular reflex
- (b) Sensing sound frequencies in the Organ of Corti
- (c) Rapid eye movement sleep

SECTION B:

ENDOCRINOLOGY (SI312)

Answer **THREE** Questions out of **FOUR**

- B5:** Write an essay on the role of the pancreas in the control of glucose metabolism
- B6:** Write an essay on two hormones of the anterior pituitary. How does the hypothalamus contribute to the control of these hormones?
- B7:** Discuss the adaptations of the embryonic cardiovascular and respiratory systems and the changes that occur in these systems at birth.
- B8:** Describe the role of the endocrine system in the body's response to stress