

**Semester II Examinations, 2003/2004**  
**Front Page Template**

Exam Code(s)	3 MB2
Exam(s)	3 <sup>rd</sup> Medical
Module Code(s)	NS410
Module(s)	Neuroscience Neurophysiology
Paper No.	1
Repeat Paper	X Special Paper
External Examiner(s)	Dr. D. Marples
Internal Examiner(s)	Prof. M.T. Kane, Dr. K. Doyle Dr. L. Quinlan

**Instructions:**

Candidates must answer **3** questions out of 4

Duration 1.5 hours

No. of Answer books 3

**Requirements:**

Handout

MCQ

Statistical Tables

Graph Paper

Log Graph Paper

Other Material

No. of Pages 2

Department(s) Physiology

OLLSCOIL NA hÉIREANN, GAILLIMH  
NATIONAL UNIVERSITY OF IRELAND, GALWAY  
3rd Medical Examination  
Spring 2004

**NS410 Neuroscience**

**Paper1: Neurophysiology**

Examiners: Dr. D. Marples, Prof. M.T. Kane, Dr. K. Doyle and Dr. L. Quinlan

**Time Allowed:** 1.5 Hours.

Candidates must answer **3** questions out of 4.

1. Write short notes on TWO of the following:

- (a) Discuss the role of postsynaptic potentials in nerve signal transduction
- (b) Discuss the role of lateral inhibition in relation to stimulus localisation
- (c) Describe the pathways for pain sensation in the body

2. 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 eye
- (b) Briefly compare the effects of the sympathetic and parasympathetic systems on the following organs: (i) the airways in the lungs and (ii) the gastrointestinal tract
- (c) Discuss the hypothalamic control of eating.

- 3. Write short notes on TWO of the following:

- (a) The stretch reflex
- (b) Functional divisions of the cerebellum
- (c) The structure and function of the otolithic organs

4. Write short notes on TWO of the following:

- (a) Photopigment activation in the eye
- (b) The role of the cochlea in hearing
- (c) The sleep cycle