

*Ollscoil na hÉireann, Gaillimh*  
*National University of Ireland, Galway*

**Summer Examinations, 2003/2004**  
**Front Page Template**

Exam Code(s)	1NP1
Exam(s)	M.Sc. Neuropharmacology
Module Code(s)	PM519
Module(s)	Neuropharmacology Paper 2
Paper No.	2
Repeat Paper	Special Paper
External Examiner(s)	Professor I. Campbell
Internal Examiner(s)	Dr. J.P. Kelly
	Dr. A. Harkin
	Dr. M. Grealy

**Instructions:**

Please attempt 5 questions. Please use separate answer books for each question.

Duration	3 Hrs.
No. of Answer books	5

**Requirements:**

Handout	
MCQ	
Statistical Tables	
Graph Paper	
Log Graph Paper	
Other Material	

No. of Pages	2
Department(s)	Pharmacology

## PM519 M.Sc. Neuropharmacology Paper 2

1. Briefly outline the principal pharmacokinetic characteristics of a drug. Using specific examples, how can these characteristics affect the usefulness of a drug in the treatment of CNS disease?
2. Describe how you would perform a saturation binding experiment. What receptor binding parameters can be determined from such an experiment? Include graphical representations where appropriate.
3. Critically appraise the following statement "Automated measurement methodologies facilitate neuropharmacological studies in laboratory animals".
4. Describe the pharmacological mode of action of each of the following drugs of abuse:
  - a) Alcohol
  - b) Cocaine
  - c) Methylenedioxymethamphetamine
  - d) Tetrahydrocannabinol
5. Write an essay on the classification, mechanism of action, therapeutic uses and adverse effects of non-steroidal anti-inflammatory drugs.
6. Describe the process of creating a knockout mouse and briefly explain how this technique may be used in neurochemical research.
7. Describe the experiment of Dixon et al. (1986) to clone the  $\beta$  adrenergic receptor and outline how bioinformatics has simplified the process.
8. What is an enantiomer? Describe how enantiomers vary in their biological action. What are the benefits of using the enantiomeric form of a drug. Support your answer with some drug examples.