

Semester I Examinations, 2005/2006

Exam Code(s) 4BS2/4BO2

Exam(s) Fourth Science Undenominated/Fourth Biomedical Science

Module Code(s) AN412-1/AN424-1

Module(s) Morphological Data Acquisition and Analysis

Paper No. 1

Repeat Paper _____

External Examiner(s) Dr. M.A. Warren

Internal Examiner(s) Prof. P. Dockery

Dr. B. Wilkins

Instructions:

There are two sections, A and B. Answer TWO questions from EACH section. Use separate answer books for each section.

Duration 2.0 hrs

No. of Answer books 2

Requirements:

No. of Pages 2

Department(s) Anatomy

SECTION A

1. Write short notes on:

- a) Fixation
- b) Phase contrast microscopy
- c) Monoclonal antibodies
- d) Resolution

2. Outline an experiment to demonstrate that two proteins are expressed by the same cell type in a tissue, using a microscopic method(s) you have learned.

3. Write a brief description of:

- a) Confocal microscopy
- b) Two photon microscopy

SECTION B

4. Write short notes on:

- a) The disector
- b) Vertical sections
- c) Cavalieri method
- d) Volume Weighted mean particle volume

5. Discuss the problem of anisotropy in stereological studies.

6. Outline a sampling protocol that would enable you to estimate the number of neurons in the substantia nigra of a rat.