

OLLSCOIL NA hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY

B.Sc. (General) and Third Science Examination Semester 1 1999

PHYSIOLOGY (SI311, SI312)

Time Allowed: 3 Hours

Examiners: Prof. McLoughlin, Prof. Kane, Dr. Colbert, Dr. Quinlan, Dr. Hynes

Please use a Separate Answer Book for Each Section

SECTION A: NEUROPHYSIOLOGY (SI311)

Question A1 is compulsory. All other questions in Section A are short note questions to which answers should be from one page to one and a half page in length. Additional material will NOT be corrected.

Answer THREE questions out of FOUR:

A1 Write notes not exceeding one half page in length on any three of the following (a labelled diagram is preferable where applicable)

- (a) the function of the rods in the retina
- (b) dark adaptation in the eye
- (c) anosmia
- (d) the circulation of the aqueous humour.

OR

What are the classical stages of sleep? Draw a rough guide to the EEG changes during these stages.

A2 Write short notes on two of the following

- (a) Pacinian corpuscle
- (b) Golgi tendon organ
- (c) Adaptation and sensory receptor signalling

A3 Write short notes on two of the following

- (a) inhibitory transmission at a synapse on a α -motoneuron
- (b) glutamate as a neurotransmitter
- (c) the function of the motor cortex and the corticospinal tract in the control of movement

A4: Write brief notes on three of the following:

- (a) fever
- (b) control of walking
- (c) hypothalamic control of hunger

SECTION B: ENDOCRINOLOGY (SI 312)

Answer THREE questions out of FOUR

- (1) Discuss the role of the pituitary hormones in the control of reproduction in the female
- (2) Write short notes on three of the following
 - (a) Iodine cycle in the body
 - (b) Role of Vitamin D in the control of extra cellular fluid calcium
 - (c) Functions of the Sertoli cells in the testes
 - (d) Chemical classification of hormones
- (3) Endocrine control of glucose metabolism
- (4) Write an essay on aldosterone