

Semester I Examinations, 2003/2004

Front Page Template

Exam Code(s) 2HF1
3BI1
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2nd Health & Safety Systems
3rd Industrial Engineering
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Module Code(s) SI318
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Module(s) Human Physiology
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Paper No.
Repeat Paper
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External Dr. D. Marples
Examiner(s)
Internal Prof. M.T. Kane, Dr. K. Doyle, Dr. A. Henry
Examiner(s)
Dr. A. Hynes, Dr. L. Quinlan
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Instructions:

Candidates must answer six questions. Answers should be approx. half page to one page in length for each question. Answer part (a) **Or** (b)

Duration Three hours
No. of Answer 1
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
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OLLSCOIL NA hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY

2nd Health & Safety Systems (2HF1) & 3rd Industrial Engineering (3BI1)
HUMAN PHYSIOLOGY (SI 318)

Winter 2003

Time Allowed: 3 Hours

Dr. D. Marples, Prof. M.T. Kane, Dr. K. Doyle, Dr. A. Hynes, Dr. L. Quinlan,
Dr. A. Henry

Answer six questions. Answers should be approx. half page to one page in length for each question. Answer part (a) **OR** (b)

1. (a) Write short notes (5-10 lines) on each of the following, lipids, sugars and nucleotides.

OR

- (b) Give approximate volumes for each of the body fluid compartments and list the major constituents of extracellular and intracellular fluid.

2. (a) Describe how an action potential travels along a neuron.

OR

- (b) List the 4 main factors involved in the formation of the cell resting membrane potential and outline each of their roles.

3. (a) a Draw a diagram of the heart labelling the layers covering the heart, the chambers, the valves and major blood vessels entering and exiting. What is a hole in the heart?

OR

- (b). Explain the following:
 - systole
 - cardiac output
 - capillaries

4. (a) Write a short note on hypertension (high blood pressure)

OR

- (b) Write a note on all the cells found in the blood. Include cell production, survival time in the circulation, typical numbers in 100ml (dl) of blood and cell functions.

- 5 (a) Outline the structural and enzymatic roles of myosin in crossbridge formation in skeletal muscle

OR

- (b) describe the process of neuromuscular transmission

- 6 (a) Describe the process of sensing light by the photoreceptors in the eye

OR

- (b) Outline the role of the Organ of Corti in hearing

7. (a) In relation to the lungs, define the following:- tidal volume, vital capacity, inspiratory reserve volume and expiratory reserve volume also give approximate volumes for each.

OR

- (b) Discuss the carriage of O₂ in the blood.