

CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

Autumn Examinations 2010/11

Module Title: Clinical Biochemistry (CA)

Module Code: BIOL7007

School: Biological Science

Programme Title: Bachelor of Science (Honours) in Biomedical Science – Year 2
Bachelor of Science (Honours) in Nutrition & Health Science – Year 2

Programme Code: SBISC_8_Y2
SNHSC_8_Y2

External Examiner(s): Professor William Gilmore, Dr Alison Gallagher
Internal Examiner(s): Dr. Brendan O' Connell
Ms Eileen McCarthy

Instructions: Answer question 1 (compulsory), three questions from section B.

Duration: 2 Hours

Sitting: Autumn 2011

Requirements for this examination:

Note to Candidates: Please check the Programme Title and the Module Title to ensure that you have received the correct examination paper.
If in doubt please contact an Invigilator.

Section A

Compulsory

Answer **8** of the following:

Q1.

- (a) Describe how the serum activity of creatine kinase can be established.
- (b) Discuss the methods employed to measure serum protein concentration.
- (c) Outline the diagnostic significance of a paraprotein.
- (d) Write a short note on the different classes of immunoglobulins.
- (e) Discuss the method employed to measure urea concentration.
- (f) Describe the hormones of the anterior pituitary.
- (g) Write a short note on the causes of hypoproteinaemia
- (h) Discuss the clinical significance of a raised alkaline phosphatase.
- (i) Describe the mechanisms by which hormones carry-out their action.
- (j) Outline the causes of an elevated anion gap.

(8 x 5 Marks)
(Total 40 Marks)

Section B

- Q2. (a) Outline the functions of the liver. (3 Marks)
- (b) Describe the pathway of bilirubin metabolism. (7 Marks)
- (c) Discuss the biochemical investigation of liver function. (10 Marks)
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- Q3. (a) List the functions of the kidney. (3 Marks)
- (b) Describe, in detail, the function of each subcomponent of the nephron. (7 Marks)
- (c) Discuss the biochemical investigation of kidney function. (10 Marks)
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- Q4. Discuss the different types of acid-base disturbances under the following headings:
- (a) Etiology (8 Marks)
- (b) Laboratory Findings (6 Marks)
- (c) Compensatory Mechanisms (6 Marks)
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- Q5. (a) Discuss the methods employed to measure glucose concentration
- (b) Discuss diabetes mellitus under the following headings:
- (i) Definition (4 Marks)
- (ii) Classification (8 Marks)
- (iii) Diagnosis (8 Marks)