

**CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ**

Autumn Examinations 2014/15

Module Title: Environmental Science and Industrial Hygiene (CA)

Module Code: ENVI7001

School: Science and Informatics

Programme Title: BSc in Applied Biosciences with Biotechnology – Award
BSc (Hons) in Nutrition and Health Science – Year 3
BSc in Food and Health Science – Award
BSc in Agriculture – Award

Programme Code: SBIBI_7_Y3
SNHSC_8_Y3
SFSTE_7_Y3
BAGRI_7_Y3

External Examiner(s): Dr Tom O'Connor
Internal Examiner(s): Ms Deirdre Ní Bhuachalla
Ms Emma Gabriel

Instructions: Answer **question 1** and **2** other questions.

Duration: 2 hours

Sitting: Autumn 2015

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.

1. COMPULSORY QUESTSION

The following tests are used to assess the quality of a water sample. Discuss the purpose of these tests and the methods used to perform them.

-Microbiological Examination (coliforms) (25 marks)

-Biochemical Oxygen Demand (BOD) (25 marks)

ANSWER TWO OF THE FOLLOWING FOUR QUESTIONS

2. *'Occupational (Industrial) Hygiene is the discipline of anticipating, recognising, evaluating and controlling health hazards in the working environment with the objective of protecting worker health and well-being and safeguarding the community at large'.*

Discuss this statement under the following headings

- Aims of Industrial Hygiene (10 marks)
- Classes of environmental hazards (10 marks)
- Potential routes of entry for harmful agents in the body (10 marks)
- Control of Hazards (20 marks)

3. (a) List the categories of pollutants found in wastewater and discuss the treatment of wastewater. (20 marks)

(b) Describe the differences between a point source and non-point sources of pollution. (15 marks)

(c) Discuss the causes and impact of eutrophication on a water body (15 marks)

4. Discuss the generation of energy using nuclear power using the headings below:

- Fission and fusion reactions (13 marks)
- Structure of a nuclear power plant (15 marks)
- Advantages and disadvantages of nuclear power (12 marks)
- Disposal of radioactive waste (10 marks)