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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (BIOMEDICAL INFORMATICS) SEMESTER II (BATCH 11)
EXAMINATION - FEBRUARY 2022

Date:- 7th February 2022

Time:- 1.30 p.m. - 3.00 p.m.

SEQ PAPER

Answer **all three (03)** questions.
Answer each part in a separate book.

Module 6 - Basic Epidemiology and Statistics

1. The World Health Organization (WHO) has stated that redefining COVID-19 as an endemic disease is still a remote possibility.
 - 1.1. Describe the terms 'epidemic' and 'endemic' in relation to common diseases in Sri Lanka. (20 marks)
 - 1.2. List common measures of data dispersion and central tendency. (30 marks)
 - 1.3. Describe four (04) properties of a normal distribution. (20 marks)
 - 1.4. Discuss how informatics can support in predicting changing trends of the present COVID-19 pandemic. (30 marks)

Module 8 - Public Health Informatics

2. Health Information Exchange (HIE) is a crucial element in successful public health information system (PHIS) implementations for non-communicable diseases (NCDs).
 - 2.1. Name the stakeholders when developing a public health information system for a disease control programme. (20 marks)
 - 2.2. Discuss the role of monitoring and evaluations in implementing a public health information system. (40 marks)
 - 2.3. List the advantages and disadvantages of web based public health information systems. (20 marks)
 - 2.4. List the essential components of a model health information exchange architecture which is suitable for Sri Lanka. (20 marks)

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Module 9 - Bioinformatics

3. Progress in modern biology is being driven, in part, by the large amounts of freely available data in public resources.
- 3.1. Discuss the features of a biological database. (30 marks)
- 3.2. List the main types of biological databases. (30 marks)
- 3.3. Discuss the potential security weaknesses in existing public biological repositories in relation to quality assurance. (20 marks)
- 3.4. "Genomic information available through online databases can be used for actionable clinical care."
Discuss the potential applications in different health care settings. (20 marks)