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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSC (BIOMEDICAL INFORMATICS) END OF SEMESTER I
EXAMINATION – MAY 2023

Date: 3rd May 2023

Time: 1.30 p.m. – 3.00 p.m.

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

MODULE I

Mathematics for Computing and Object-Oriented Programming

1. The Glasgow Coma Scale (GCS): Eye response (1-4), Verbal response (1-5) and Motor response (1-6), is used to objectively describe the extent of impaired consciousness in all types of acute medical and trauma patients. Data driven approach to medical informatics is becoming an interesting and realistic entity in future.
 - 1.1. Create a flowchart to calculate the Glasgow Coma Scale (GCS) score using motor response, verbal response, and eye response as inputs. (50 marks)
 - 1.2. Write a pseudocode algorithm to obtain the motor response, verbal response, and eye response scores of a patient, and then calculate and print their GCS score. (50 marks)

MODULE 4

Networking, Computer Hardware, Operating Systems and Application Packages

2. Data visualization software has many implications in current and future healthcare.
 - 2.1. Briefly describe the place of artificial intelligence (AI) based tools in data visualizing. (30 marks)
 - 2.2. Critically analyse the place of Google Data Looker Studio (Formerly Google Data Studio) against Tableau/Power BI as data visualising software. (70 marks)

Contd...../2-

MODULE 5

Software Engineering and Software Management

3. Agile method for developing a software system has a number of advantages and disadvantages.
- 3.1. Critically evaluate the suitability of the use of Agile software in healthcare with specific examples. (70 marks)
- 3.2. Briefly describe three types of user testing with examples. (30 marks)