POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (HEALTH INFORMATICS) EXAMINATION – JULY 2020

Date: 6th July 2020   **Time:** 9.00 a.m. – 12.00 noon

ESSAY PAPER

Answer all four (04) questions.
Answer each question in a separate book.

1. Digital technologies have contributed in many ways in the mitigation efforts related to COVID-19. Contact tracing and other digital tools have been deployed in many settings although arguments for and against such tools have been widespread. The Ministry of Health is planning to implement a contact tracing tool using Bluetooth proximity sensing technology.

    You as the Consultant in Health Informatics have been asked to review and provide guidance to the Ministry of Health on developing such a tool.

1.1. Describe the basis of using Bluetooth technology in the fight against the COVID-19 pandemic. Your description may include hypothetical uses of the technology and currently deployed methods.   (40 marks)

1.2. Discuss the ethical issues pertaining to enforcing the use of contact tracing technologies and suggest mechanisms that may be utilized to overcome such issues.   (40 marks)

1.3. What are the conditions for effective use of Bluetooth technology in Sri Lanka for contact tracing?   (20 marks)

2. Nowadays in China, to enter many offices, restaurants, parks or malls people must show their status on an App that shows the probability of the person being a coronavirus threat: a green light lets you in anywhere; a yellow light could send you into home confinement; a red light throws a person into a strict two-week quarantine at a hotel.

2.1. Identify the health parameters which are required for the App to be effective? (30 marks)

2.2. Critically evaluate the technical capabilities of hand-held devices necessary for the App to be effective? (40 marks)

2.3. Discuss the ethical and public policy considerations. (30 marks)

3. There are several electronic health management information systems implemented in the state curative sector and preventive health sector in Sri Lanka.

3.1. Briefly describe the existing electronic information systems in the above sectors. (20 marks)

3.2. Compare and contrast the systems in the above two sectors in terms of interoperability. (40 marks)

3.3. What are the barriers to optimal use of electronic information systems within the preventive health sector? (40 marks)

4. With the enforcement of COVID-19 lockdown in Sri Lanka, the routine services of all government hospitals were suspended.

4.1. How were the clinic patients in the state hospitals managed during the COVID-19 pandemic in Sri Lanka? (30 marks)

4.2. Briefly discuss the drawbacks of the approaches described in above 4.1. (20 marks)

4.3. As a Health Informatician, what are your suggestions to reengineer the existing clinic system of state hospitals in Sri Lanka based on the above experience? (40 marks)

4.4. What are the additional insights that may be gained by implementing such a system described in above 4.3. (10 marks)