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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2022/2023**

COURSE NAME : TELEMEDICINE SYSTEM AND APPLICATIONS

COURSE CODE : BEJ 45403

PROGRAMME CODE : BEJ

EXAMINATION DATE : FEBRUARY 2023

DURATION : 3 HOURS

INSTRUCTION : 1. ANSWER ALL QUESTIONS.
2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK**.
3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **THREE (3) PAGES**

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Q1 The Covid-19 pandemic changed the healthcare scenario. A widespread acceptance towards telehealth has been established and currently is considered as viable option for care.

- (a) Analyze **THREE (3)** challenges associated with telemedicine. (9 mark)
- (b) Demonstrate **SIX (6)** features available in MySEJAHTERA (MySJ) apps that are beneficial for the Ministry of Health Malaysia (MOHE) during the Movement Control Order (MCO) period recently. (12 marks)
- (c) Predict the future of telemedicine in Malaysia. (4 marks)

Q2 Evolving technologies serve as catalysts in the telehealth industry.

- (a) Elaborate **ONE (1)** example of hospital-grade wearables and its elements which are useful as a remote health monitoring device. (4 marks)
- (b) Sketch the ideal set-up for a remote system for health monitoring applications. (2 marks)
- (c) Propose a comprehensive remote monitoring guidelines to be followed by a cardiac arrhythmias patient and physician on the following situations:
 - (i) ~~Daily~~ heart monitoring (5 marks)
 - (ii) ~~Sudden~~ heart attack (5 marks)
- (d) Classify the following technology intended for real time care:
 - (i) ~~Data~~ driven protocol (3 marks)
 - (ii) ~~Connected~~ care solutions (3 marks)
 - (iii) ~~Cloud~~ based storage (3 marks)

Q3 Cybersecurity imposed a great threat concerning the adoption of telemedicine.

- (a) Distinguish **THREE (3)** basic formats of security services. (6 marks)

- (b) Infer the methods to ensure interoperability and security of telemedicine across platforms and geographic locations. (10 marks)
- (c) List **THREE (3)** ways for mitigation of cybersecurity threats. (5 marks)
- (d) Generalize **FOUR (4)** possibilities of ethical and legal issues related to telemedicine. (4 marks)

- Q4** (a) Differentiate **THREE (3)** key components of a Hospital Information System (HIS). (6 marks)
- (b) Define an electronic medical record (EMR) and propose a pool of data required to establish a robust EMR for telemedicine purposes. (11 marks)
- (c) Point-out the emerging technologies for telemedicine. (8 marks)

-END OF QUESTIONS -