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Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : PERVASIVE COMPUTING
COURSE CODE : BIW 33403
PROGRAMME CODE : BIW
EXAMINATION DATE : JULY/AUGUST 2023
DURATION : 3 HOURS
INSTRUCTIONS

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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TERBUKA

- Q1** (a) Discuss the reasons why sensors are important in Pervasive Computing.
(6 marks)
- (b) Provide a significant application for each of the following sensors.
- (i) Accelerometer (2 marks)
 - (ii) Gyroscope (2 marks)
 - (iii) Magnetometer (2 marks)
- (c) Explain **FOUR (4)** working solutions to reduce the energy consumption of a mobile device.
(8 marks)
- Q2** (a) Discuss how video streaming works?
(4 marks)
- (b) Compare and contrast between the following methods in adaptive streaming.
- (i) Server controlled. (4 marks)
 - (ii) Client controlled. (4 marks)
- (c) Elaborate **TWO (2)** major challenges of mobile streaming for users with high-speed mobility.
(6 marks)
- (d) Why is it important to have a standard for HTTP-based streaming?
(2 marks)

- Q3** (a) Discuss a scenario in which Radio Frequency Identification (RFID) technology is applicable. (5 marks)
- (b) Illustrate a small Wireless Local Area Network (WLAN), complete with an IP address for each interface. (5 marks)
- (c) Describe the following two modes of mobile data delivery with examples.
- (i) Pull (5 marks)
- (ii) Push (5 marks)
- Q4** (a) The Malaysian government has just announced that a dual network model will now be adopted for the 5G rollout in the country once its coverage reaches 80% of populated areas. This is a new policy shift from a single network model implemented by Digital Nasional Berhad (DNB).
Discuss the advantages and disadvantages of both models. (10 marks)
- (b) Describe context-aware applications by using an example. (10 marks)

- END OF QUESTIONS -