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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : MULTIMEDIA TECHNOLOGY

COURSE CODE : BNF 22202

PROGRAMME CODE : BNF

EXAMINATION DATE : JULY/ AUGUST 2023

DURATION : 2 HOURS 30 MINUTES

- 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 **FOUR (4)** PAGES

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- Q1** (a) Describe briefly the definition of:
- (i) Multimedia
 - (ii) Hyper Media
- (4 marks)
- (b) Differentiate between linear and non-linear multimedia. Give **TWO (2)** examples for each case.
- (6 marks)
- (c) Describe **THREE (3)** advantages and disadvantages of using multimedia in business and management.
- (6 marks)
- (d) Briefly explain the advantages of using live streaming over internet network for businesses.
- (2 marks)
- (e) Give **TWO (2)** multimedia applications used for education.
- (2 marks)
- Q2** (a) List **SIX (6)** elements of multimedia application.
- (6 marks)
- (b) Describe **TWO (2)** advantages of graphics in multimedia.
- (4 marks)
- (c) Differentiate between time-base authoring tool and card-base authoring tool. Give **TWO (2)** examples for each tool.
- (6 marks)
- (d) Explain the applications of the following software:
- (i) Capcut
 - (ii) MIT App Inventor
- (4 marks)
- Q3** (a) Differentiate between MPEG and JPEG files.
- (2 marks)
- (b) Vector and Bitmap are two categories of graphics. Differentiate between Vector graphic and Bitmap graphic.
- (4 marks)
- (c) Website is one of the applications of multimedia technology. A lot of graphics in a website will slow down website loading. Discuss briefly any techniques to reduce graphics website loading.
- (6 marks)

- (d) Explain the differences between animation and video in multimedia. (2 marks)
- (e) List **TWO (2)** types of video compression / decompression. (2 marks)
- (f) Differentiate between RTSP and HTTP video transfer. (4 marks)

- Q4** (a) Differentiate between inkjet printer and plotter devices. (2 marks)
- (b) An audio signal is digitized at a sampling rate of 44.1 kHz, a bit depth of 16 and in stereo mode. Calculate the space occupied by 3 minutes of the audio and its data rate for playback. (4 marks)
- (c) A 27-inch monitor with an aspect ratio of 4:3 has a pixel addressability of 1024×800 and a color-depth of 72 bits. Calculate:
- (i) Resolution
 - (ii) Dot-pitch
 - (iii) The minimum amount of display memory required on its adapter card to display an image on the screen (6 marks)
- (d) A monitor can display 4 shades of red, 8 shades of blue and 16 shades of green. Analyze the color depth supported by the monitor. (3 marks)
- (e) A CD-ROM contains 333000 blocks to be played back in 92 minutes. Calculate the data rate and capacity of the CD-ROM when operating in Mode 1. (3 marks)
- (f) Differentiate between passive-matrix LCD and active-matrix LCD. (2 marks)
- Q5** (a) Differentiate between sequential and random access storages. (2 marks)
- (b) Differentiate between volatile and non-volatile memory storage devices. (4 marks)
- (c) Describe **THREE (3)** advantages of cloud storage. (6 marks)
- (d) Differentiate between magnetic and optical storage technologies. (2 marks)

- (e) An IT engineer needs to provide online data storage for his company's backup data. Propose a suitable data storage device for backup purpose in terms of performance and durability. (4 marks)

- (f) Differentiate the applications and features between CD-R and CD-RW. (2 marks)

- END OF QUESTIONS -

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