



UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020**

COURSE NAME : MULTIMEDIA TECHNOLOGY
COURSE CODE : BNF 22203
PROGRAMME CODE : BNF
EXAMINATION DATE : DECEMBER 2019 / JANUARY 2020
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

- Q1** (a) Explain briefly any **FOUR (4)** of the following elements in multimedia applications:
- (i) Text
 - (ii) Audio
 - (iii) Image
 - (iv) Animation
 - (v) Video
- (8 marks)
- (b) Discuss **TWO (2)** examples of multimedia products and applications. (4 marks)
- (c) Briefly explain **TWO (2)** advantages of using live streaming over internet network. (4 marks)
- (d) Discuss **TWO (2)** differences between **FONTS** and **POINTS**. (4 marks)
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- Q2** (a) Describe the definition of multimedia authoring tools. (2 marks)
- (b) As a multimedia engineer you are required to choose an application software to edit video presentation for engineering products. Determine features that must be considered in choosing the software. (6 marks)
- (c) Explain the applications of the following software:
- (i) Macromedia Flash
 - (ii) Adobe Photoshop
 - (iii) Adobe After Effects
 - (iv) Macromedia Dreamweaver
- (8 marks)
- (d) Briefly explain factors of determining video file size. (4 marks)



- Q3** (a) Explain briefly each of the following multimedia format files:
- (i) MPEG
 - (ii) AVI
- (4 marks)
- (b) Website is one of the applications in multimedia technology. A lot of graphics in a website will slow down website loading. Discuss briefly any techniques to reduce time for graphics website loading.
- (6 marks)
- (c) 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 2 minute of the audio and its data rate for playback.
- (4 marks)
- (d) As a multimedia engineer you are required to provide storage devices for storing multimedia data and files.
- (i) Discuss why storage is necessary.
 - (ii) Explain how to measure hard disk performance.
- (6 marks)
- Q4** (a) Discuss **TWO (2)** advantages and disadvantages of using Speech Recognition input and Handwritten input.
- (6 marks)
- (b) A 15 inch monitor with an aspect ratio of 4:3 has a pixel addressability of 800×600 and a color-depth of 24 bits. Calculate:
- (i) Resolution.
 - (ii) Dot-pitch
 - (iii) The minimum amount of display memory required on its adapter card to display image on the screen.
- (10 marks)
- (c) A monitor can display 4 shades of red, 8 shades of blue and 16 shades of green. Determine the color depth supported by the monitor?
- (4 marks)

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- Q5** (a) An image dimensions of 640 by 480 and color depth of 16 bits. If this image is to be transmitted along a 56 kbps line from a Web server, calculate how long would it take before the entire image is visible on the screen. (4 marks)
- (b) A CD-ROM contains 300000 block to be played back in 74 minutes. Calculate the data rate and capacity of the CD-ROM when operating in:
- (i) Mode 1 (2048)
 - (ii) Mode 2 (2336)
- (6 marks)
- (c) A multimedia engineer needs to provide an online data storage for his company backup data. Analyse and propose a suitable data storage device for the backup purpose in terms of performance and durability. (6 marks)
- (d) The audio CD format requires sound to be digitized a sampling rate of 44.1 kHz and a bit-depth of 8 bits, in stereo mode. If 70 minutes of the digitized audio can be stored in a single CD, calculate the CD storage capacity. (4 marks)

- END OF QUESTIONS -

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