UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023

COURSE NAME	:	FUNDAMENTALS OF MULTIMEDIA COMPUTING
COURSE CODE	:	BIM 10103
PROGRAMME CODE	:	BIM
EXAMINATION DATE	:	JULY / AUGUST 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 FINAL EXAMINATION CONDUCTED VIA CLOSED BOOK.

THIS QUESTION PAPER CONSISTS OF **SEVEN (7)** PAGES

TERBUKA

Q1   Which of the following statements is **FALSE** about the usefulness of a spectral view of audio?

A. It is useful to adjust the relative volume frequency of the voice-over and the background music.
B. It is useful to select the frequency range of the audio
C. It is useful to identify audio distortion due to frequency anomaly.
D. It is useful to analyze the frequency range of the audio.

(1 mark)

Q2   Which type of audio compression technique is suitable for field/outdoor recording?

A. Parallel compression.
B. Serial compression.
C. Lossless compression.
D. Lossy compression.

(1 mark)

Q3   JPEG compression is a type of _____ compression.

A. spatial
B. temporal
C. lossy
D. asymmetrical

(1 mark)

Q4   Which of the following statements is **FALSE** for lossy compression?

A. Preserve perceptual quality when choosing which data to discard.
B. Lower picture quality.
C. It preserves the original data while reducing the file size.
D. Cannot recover the discarded data.

(1 mark)

Q5   The action that takes place between keyframes is called _____.

    A. framing
    B. animation
    C. kerning
    D. tweening

(1 mark)

Q6   _____ is an effect in which a still or moving image is transformed into another.

    A. Interpolation
    B. In-betweening
    C. Morphing
    D. Cinematic

(1 mark)

Q7   _____ is the animation principle that can control the size, volume, and proportions of the object in a better way.

    A. Follow Through and Overlapping action
    B. Pose-to-Pose action
    C. Slow-in and Slow-out action
    D. Exaggeration

(1 mark)

Q8   Following are the criteria for choosing which font to use **EXCEPT** _____.

    A. use only one typeface with variations in style and size
    B. connotation of a particular font type
    C. use serif display with sans serif body type
    D. using two very similar or very dissimilar typefaces

(1 mark)

Q9 A font family refers to the different sizes, weights, and variations of a typeface. The purpose of font families is to _____.

    A. highlight personality
    B. evoke mood and tone of the event
    C. create interest for the reader
    D. enable the reader to read easily

(1 mark)

Q10 Which of the following statements is **FALSE**?

    A. Serifs are good for body text.
    B. San serif is usually used for printed publication.
    C. Serifs improve readability by leading the eye along the line of type.
    D. Script is one of the typeface categories.

(1 mark)

Q11 Dominance principle of design applies _____ to distinguish between elements in a series of similar forms.

    A. size
    B. shape
    C. colour
    D. line

(1 mark)

Q12 In one of the Gestalt design principles, human perception tends to complete unfinished or partially obscured objects. The principle is called _____.

    A. focal point
    B. emphasis
    C. contrast
    D. closure

(1 mark)

Q13 What are the effects of a higher sampling rate of audio?

     i.   Larger file size.
     ii.   Obtain more sample points.
     iii. The reconstructed wave looks closer to the original wave.
     iv. All of the above.

     A.   i and ii
     B.   ii and iii
     C.   iii only
     D.   iv only

                                                      (2 marks)

Q14 What is the frame aspect ratio for wide-screen format standard definition if the pixel aspect ratio is 1.2 and the frame size is 720 x 480?

     A.   4:3
     B.   16:9
     C.   3:2
     D.   15:8

                                                      (2 marks)

Q15 Which of the following is part of the principles of Unity/Harmony principle of design?

     i.   Rhythm and similarity.
     ii.   Proximity and closure.
     iii. Continuation and repetition.
     iv. All of the above.

     A.   i and ii
     B.   i and iii
     C.   ii and iii
     D.   iv

                                                      (2 marks)

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Q16 Which of the following statements are **TRUE** about visual and interaction design?

i. Information should only be conveyed with colour.
ii. Judging the contrast between colours of different hues is easy.
iii. Navigational links is one of the basic concepts of grouping in web design.
iv. Focal point principle can be applied with the use of contrast such as colour, size, and placement.

A. i and ii
B. ii and iii
C. iii and iv
D. All of the above.

(2 marks)

Q17 Suppose the monitor resolution of your target audience is 1200 x 1000 pixels. You want your image to appear about 3/4 the width and height of the screen. Your original picture is 7" x 7". What are the pixel dimensions of your final image?

(10 marks)

Q18 Suppose you want to transfer an audio file of 1 minute of CD-quality audio. The audio has two channels.

(a) Calculate the total number of samples.

(2 marks)

(b) Calculate the total number of bits required for this audio sample.

(3 marks)

(c) Calculate the file size of this audio file in MB.

(5 marks)

Q19   A video consists of a sequence of images and audio. Therefore, to reduce the video data rate, several strategies for reducing digital images and audio file size are crucial.

    (a)   Explain **FOUR (4)** general strategies for reducing digital images and audio file size.

                              (4 marks)

    (b)   Describe **THREE (3)** differences between lossy compression and lossless compression.

                              (6 marks)

Q20   (a)   Name **FOUR (4)** types of animation.

                              (4 marks)

    (b)   Describe **THREE (3)** differences between motion capture animation and procedural animation.

                              (6 marks)

Q21   (a)   Apply **THREE (3)** considerations of legibility of body text for different audience.

                              (6 marks)

    (b)   How does typography guide the reader through the levels of the document? Give an example.

                              (4 marks)

Q22   Suppose you want to redesign the UTHM website which highlights its corporate style. The design should follow the current trend of the website. Suggest any **TWO (2)** design principles with an explanation of the chosen approach from each principle that could help you realize your mission to produce a good design for UTHM website.

                              (10 marks)

- END OF QUESTIONS –

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