



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2012/2013**

**COURSE NAME : MULTIMEDIA TECHNOLOGY
AND APPLICATION**

COURSE CODE : BEC 20202

PROGRAMME : BEB/BEH/BED/BEU

EXAMINATION DATE : JUNE 2013

DURATION : 2 HOURS

**INSTRUCTION : ANSWER ALL QUESTIONS IN
SECTION A AND ANSWER ONE
(1) QUESTION IN SECTION B**

THIS QUESTION PAPER CONSISTS OF EIGHT (8) PAGES

SECTION A (30 MARKS)

INSTRUCTION: Answer ALL questions.

Q1 Fill in the blank with the most correct answer.

Sound is described in terms of two characteristics which are _____ and _____.

- A. frequency, resolution
- B. frequency, amplitude
- C. amplitude, resolution
- D. resolution, sample size

(1 mark)

Q2 Find a correct term that gives the abbreviation of GUI.

- A. Gaming User Interchange
- B. Geometric User Interface
- C. Graphical User Interface
- D. Graphical User Interchange

(1 mark)

Q3 *A project is packaged and delivered to the end user.*

Which of the following stages describe the above statement?

- A. Design and Production
- B. Planning and Costing
- C. Testing
- D. Delivery

(1 mark)

Q4 The following activities are involved in completing a multimedia project, except _____.

- A. forecasting
- B. designing
- C. planning
- D. testing

(1 mark)

Q5 *A native language of web was originally designed to display simple text documents on computer screens.*

Point out the language that matches the above description.

- A. DHTML
- B. HTML
- C. JAVA
- D. XHTML

(1 mark)

Q6 A collection of characters of a single size and style belonging to a particular typeface family is a definition for a ____.

- A. font
- B. style
- C. tab
- D. toolbar

(1 mark)

Q7 Analyse the following research fields then select the branch of physics that studies sound.

- A. Auditory
- B. Biometrics
- C. Linguistics
- D. Acoustics

(1 mark)

Q8 Sound pressure is measured in ____.

- A. Bauds
- B. Bits
- C. Decibels
- D. Watts

(1 mark)

Q9 Select the most suitable process that able to removed blank spaces from the front of recording.

- A. Digital Signal Processing
- B. Resampling
- C. Splicing
- D. Trimming

(1 mark)

Q10 Select the suitable format to be used in order to significantly reduce the file size of an image compared to original without being notice by human eye.

- A. .jpeg
- B. .gif
- C. .png
- D. .bmp

(1 mark)

- Q11** The following is a list of monitor resolution. Which one of the following resolutions displays a sharper text?
- A. 800 x 600
 - B. 1024 x 600
 - C. 1024 x 768
 - D. 1280 x 720
- (1 mark)
- Q12** Let's say you have an image with 200 x 200 pixels. Which one of the following resolutions displays the bigger image on the monitor?
- A. 400 dpi
 - B. 300 dpi
 - C. 250 dpi
 - D. 72 dpi
- (1 mark)
- Q13** The following is a list of multimedia element. Analyse the element that requires the highest computer performance.
- A. Animation
 - B. Sound
 - C. Text
 - D. Video
- (1 mark)
- Q14** Which of the following communication system is suitable to deploy by an organization that has many branches all over the world?
- A. Local Area Network
 - B. Metropolitan Area Network
 - C. Intranet
 - D. Wide Area Network
- (1 mark)
- Q15** Select one of the following formats that allow musical instruments to communicate with computers and has become a standard file type for files that contain data that enables the music to be recreated.
- A. Moving Pictures Experts Group (MPEG)
 - B. Musical Instrument Digital Interface (MIDI)
 - C. MPEG Audio Level 3 (MP3)
 - D. None from the above
- (1 mark)

Q16 A(n) _____ is a feature of a 3-D modeling tool.

- A. autotrace
- B. eyedropper tool
- C. lathe and extrude
- D. thesaurus

(1 mark)

Q17 The following is a list of hardware. Decide which hardware is able to capture light levels of graphic data.

- A. Charge Coupled Device
- B. Graphic Card
- C. Video Capture Card
- D. Monitor

(1 mark)

Q18 Given a user's requirement.

The developed multimedia application should allow the end-user to navigate from one frame to another frame.

Choose the most suitable structure to be used in the project.

- A. Composite
- B. Hierarchical
- C. Linear
- D. Non-linear

(1 mark)

Q19 Determine the "fair use" exception for copyrighted material.

- A. Business houses
- B. Educational institutions
- C. Publishers
- D. Web developers

(1 mark)

Q20 Choose the most suitable model to be used in the multimedia project to fulfill the following user's requirement.

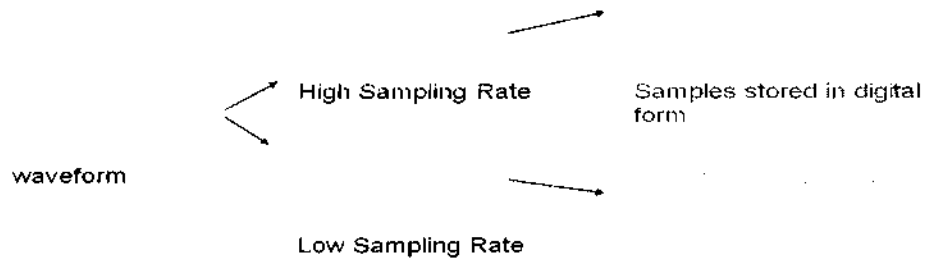
The end-user navigates freely through the content of a project, unbound by predetermined routes.

- A. Composite
- B. Hierarchical
- C. Linear
- D. Non-linear

(1 mark)

- Q21** The GIF format use 8 bit color table. This mean that the format can support up to _____ distinct colors.
- A. 8
 - B. 1
 - C. 256
 - D. 24
- (1 mark)
- Q22** Select suitable hardware that able to convert analog to digital signal for a video data.
- A. Camcorder
 - B. Webcam
 - C. Video capture card
 - D. All of the above
- (1 mark)
- Q23** Decide which of the following image format used lossy compression technique.
- A. Joint Photographic Experts Group (Jpeg)
 - B. Graphics Interchange Format (GIF)
 - C. Portable Network Graphic (PNG)
 - D. None from the above
- (1 mark)
- Q24** The following is a list of image format. Decide the most efficient format for storing images to be transferred using the Internet.
- A. .jpeg
 - B. .gif
 - C. .png
 - A. None from the above
- (1 mark)
- Q25** Select the most suitable compression technique to be applied on medical image.
- A. Lossy compression
 - B. Density compression
 - C. Lossless compression
 - D. None from the above
- (1 mark)
- Q26** Select suitable hardware that able to convert analog to digital signal and vice versa for an audio data.
- A. Camcorder
 - B. Microphone
 - C. Sound card
 - D. Speaker
- (1 mark)

Q27 The following is a process of sampling operation on an audio data.



Based on the figure, it shows the following:

- I. Sampling operation is one of the digitization processes.
- II. Undersampling leads to aliasing.
- III. The lower the sample rate, less information will be loss.
- IV. The higher the sample rate, less information will be loss.

- A. I, II, III
- B. I, II, IV
- C. I, III, IV
- D. I, II, III, IV

(2 marks)

Q28 Decide font types that are suitable for headlines and footnotes.

- I. Comic Sans MS - this is an example on how the font type looks like
- II. Times New Roman - this is an example on how the font type looks like
- III. Arial - this is an example on how the font type looks like
- IV. Century Gothic - this is an example on how the font type looks like

- A. I, II, III
- B. I, II, IV
- C. I, III, IV
- D. I, II, III, IV

(2 marks)

SECTION B (20 MARKS)**INSTRUCTION: Answer ONE question only.**

- Q29** (a) Give a definition of Multimedia Authoring System with your own words. (3 marks)
- (b) Briefly describe four (4) ways in which content can be formatted and delivered in a Multimedia Authoring System. (8 marks)
- (c) (i) Demonstrate what extra information is multimedia good at conveying with respect to conventional media (4 marks)
- (ii) What can spoken text convey that written text cannot? (2 marks)
- (iii) When might written text be better than spoken text? (3 marks)
- Q30** (a) Explain two (2) characteristics of Serif and Sans Serif text. Use an appropriate figure to support your answer. (3 marks)
- (b) RGB, HSB and CMYK are three (3) different color models in multimedia systems. Is it true that HSB is a color model that related with human perception of color? Give your reasons. (5 marks)
- (c) Calculate the size of video in 5 seconds if you have a frame size of 320 x 240, a color depth of 24 bits and a frame rate of 10 fps. Measure the file size in Megabytes. (6 marks)
- (d) Sketch the analog signal to show differences between:
- (i) low and high pitch.
- (ii) quiet and loud sound. (6 marks)

- END OF QUESTION -