(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

SPECIAL/SUPPLEMENTARY EXAMINATIONS
YEAR TWO SEMESTER ONE EXAMINATIONS

FOR THE DEGREE OF
BACHELOR OF SCIENCE
(INFORMATION TECHNOLOGY)

COURSE CODE   :   BIT 216

COURSE TITLE: MULTIMEDIA TECHNOLOGIES

DATE: 25/07/2022   TIME: 11.00 A.M – 1.00 P.M.

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

1. Which of the following describes the function of a scanner?
   (A) Creating vector images
   (B) Creating bitmapped images
   (C) Converting bitmapped images into vector images
   (D) Converting bitmapped text images into editable text
2. What is the advantage of using vector graphics in the creation of a digital image?
   (A) Vector graphics are widely accepted across all graphics software.
   (B) Vector graphics allow for the production of photorealistic images.
   (C) Vector graphics allow for precise images to be rescaled without distortion.
   (D) Vector graphics allow for the manual manipulation of every individual pixel in a graphic.
3. The formula used to determine the bit rate of a digital sound file in kbits/s is as follows:
   Bit rate = (sampling rate) × (bit depth) × (number of channels) What would be the file size of a sound file that is recorded at 100 kHz at a 16-bit depth in stereo and is 15 seconds in duration?
   (A) 3MB (B) 4MB (C) 5MB (D) 6MB
4. What process is used to reduce the jagged edge created when enlarging a bit-mapped graphic?
   (A) Animating (B) Anti-aliasing (C) Grouping (D) Pixelisation
5. What number of colours may be stored in a pixel of a graphic that has a colour depth of 8?
   (A) 8 (B) 16 (C) 64 (D) 256
6. With reference to multimedia elements, pick the odd-one out of the following:
   A. Graphics B. Animation C. Audio D. Video E. Voice Script
7. Kerning is
   A. The space between two lines of text   B. The fixed space between two characters
   C. The space between group of letters   D. The spacing between individual characters
8. Primary uses of business interactive multimedia include all of the following except
   a) product demonstrations   b) Web page development
   c) entertainment   d) high-quality presentations
9. Clicking on special areas called _____ activates the various features of a multimedia presentation.
   a) activators   b) starters   c) pages   d) buttons
10. Before building a presentation with a multimedia authoring system, the designer would use a
    a) flowchart b) hypermedia database c) button file   d) storyboard
11. A specialized program used to create multimedia presentations is a _____
    a) Web authoring program   b) desktop publishing program
    c) multimedia authoring program   d) illustration program
12. The simulated experience where you can create and experience new forms of reality without actually being there is referred to as _____
    a) unstructured problems   b) virtual reality   c) VRML   d) robotics
13. An essential ingredient for effective multimedia presentations incorporates user participation or _____
    a) links   b) buttons   c) interactivity   d) integration
14. In a multimedia project with a _____structure, users navigate sequentially from one frame to another.
    a. Composite   b. Hierarchical   c. Linear   d. Non-linear
15. What is Animation?

A) A cartoon   B) The apparent movement of an object
C) A file format   D) All of the above

16. In which type of streaming multimedia file is delivered to the client, but not shared?
    a) real-time streaming   b) progressive download
    c) compression   d) none of the mentioned
17. Which one of the following is the characteristic of a multimedia system?
    a) high storage   b) high data rates   c) both (a) and (b)   d) none of the mentioned
18. Which of the following best describes the process of streaming?
    A) Playing audio files. B)   Delaying playing a multimedia element until enough data has been buffered so the element can play uninterrupted.   C)   Reducing the load time of a Web page by streamlining operations.   D)   Sending packets to a Web server so improve server performance.
19. Designed to create a particular look, a _____ contains color schemes, slide and title masters with custom formatting and fonts styles.
    A. template   B. presentation   C. slide   D. background
20. Adding _____ to objects on your slides not only controls the flow of information, but adds interest to your presentation.
    A.   background   B.   transition   C.   animation   D.   popups
21. One of the disadvantages of multimedia is:
    A.   cost   B.   adaptability   C.   usability   D.   relativity
22. A smaller version of an image is called a:
    A.   clipart   B.   bitmap   C.   portable network graphic   D.   thumbnail
23. The text color in a presentation should contrast with the _____ color.
    A. texture   B. frame   C. Stack   D. background
24. Images included in many software titles are called _____.
    A. clipart   B. popups   C. .jpg files   D. .tiff files
25. The process of planning your multimedia presentation is known as a:
    A. design   B. storyboard   C. development   D. layout
26. A video consists of a sequence of
    A. Frames   B. Signals   C. Packets   D. Slots
27. If frames are displayed on screen fast enough, we get an impression of
    A. Signals   B. Motions   C. Packets   D. Bits
28. Space between lines:
    (a) Leading   (b) Kerning   (c) Extrude   (d) Expanded   (e) Font Mapping
29. Programs used to create or modify bitmap images are called _____
    a) illustration programs   b) paint programs
    c) graphical modifiers   d) bit publishing packages
30. Paint programs and image editors are used for creating and editing _____
    a) bitmap images   b) vector images   c) text   d) HTML codes

QUESTION TWO [20 MARKS]

a. Justify the importance of file or data compression in Multimedia activities.   [3 marks]
b. With examples distinguish between static media and dynamic media.   [3 marks]
c. Briefly explain any TWO special effects that may be used in video production.

                                                                                 [4marks]
d. Describe streaming as used in multimedia.   [2 marks]
e. In medical applications, which method of compression is suitable? Justify your choice
                                                                                 [2 marks]

f. Discuss three major challenges that may be experienced in the usage of multimedia in teaching at Kibabii University.   [6 marks]

QUESTION THREE [20 MARKS]

a. Define sampling as used in sound production   [1 mark]
b. Calculate the size of a 30-second 16-bit, 44.1 kHz stereo music.   [3 marks]
c. Briefly explain three factors that affect the quality of the sound.   [6 marks]
d. Discuss any FIVE sound editing operations.   [10 marks]

QUESTION FOUR [20 MARKS]

a. A multimedia company has been commissioned to develop a promotional video for a famous tourist attraction.

   i.   Outline factors that can affect sound quality when creating the video.   [3 marks]
   ii. Identify and describe a video transfer protocol that may be used to download the video from a website.   [3 marks]
   iii. Describe the ethical issues that will need to be considered by the multimedia company in developing the video.   [4 marks]

b. Compare and contrast graphics and images as used in multimedia. {Hint: you consider format, input, editing, and storage (file & capacity) among other attributes}   [10 marks]

QUESTION FIVE [20 MARKS]

a. Briefly discuss the key features a multimedia authoring tool should provide   [5 marks]
b. Suggest the key issues multimedia systems need to deal with.   [5 marks]
c. Briefly discuss any five desirable features for a multimedia system.   [10 marks]