

BCA/FMM : 504 (O)

2025

(5th Semester)



BACHELOR OF COMPUTER APPLICATIONS

Paper : FMM : 504 (Old Course)

(Fundamentals of Multimedia)

Full Marks : 70

Pass Marks : 45%

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 45)

The questions are of equal value

1. Explain how Huffman coding for text compression works by using the phrase 'MISSISSIPPI RIVER' as an example.

Or

What are vector graphics? List the advantages of vector graphics over raster graphics.

2. Explain the steps undertaken and tools used while capturing and editing sound in PC.

Or

What is differential pulse-code modulation? Explain how DPCM works.

3. Explain how resolution, pixel depth and image size affect the quality and storage requirements of animated content. Provide examples to demonstrate the trade-off between image quality and storage efficiency.

Or

Discuss the use of animation on the web. What are the features and limitations of web-based animation?

4. What is the role of graphics accelerator cards and DirectX in improving video performance?

Or

Write a short note on various video standards such as NTSC, PAL, SECAM and HDTV. Compare their features and mention the region where they are commonly used.

(3)

5. Write a short note on streaming video technologies. Compare real video, MPEG and SMIL highlighting their applications in web multimedia.

Or

Explain how graphics are supported in HTML. Discuss the various methods of including and optimizing images of webpages.

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(5th Semester)

BACHELOR OF COMPUTER APPLICATIONS

Paper : FMM : 504 (Old Course)

(Fundamentals of Multimedia)

(PART : A—OBJECTIVE)

(Marks : 25)

The figures in the margin indicate full marks for the questions

A. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×10=10

1. _____ measures how much colour information is available to display or print each pixel in an image.

(a) Colour ()

(b) Bit depth ()

(c) Image resolution ()

(d) Pixel dimension ()

2. _____ is a collection of characters of a single size and style belonging to a particular typeface family.

(a) Font style ()

(b) Typeface ()

(c) Kerning ()

(d) Font ()

3. Which effect is used to reduce the dynamic range of an audio signal?

(a) Envelope ()

(b) Compressor ()

(c) Expander ()

(d) Normalize ()

4. Which is not an advantage of digital sound?

(a) Natural representation ()

(b) Quality preservation ()

(c) Editing flexibility ()

(d) Compact storage ()

5. Which of the following best defines animation?

- (a) The process of storing digital images in a computer ()
- (b) The illusion of movement created by displaying a sequence of images rapidly ()
- (c) The editing of images using software ()
- (d) The conversion of images into text ()

6. Which of the following is an example of 3D animation software?

- (a) Adobe Animate ()
- (b) Toon Boom Harmony ()
- (c) Blender ()
- (d) Pencil2D ()

7. Which of the following is an advantage of digital video over analog video?

- (a) Lower storage requirements ()
- (b) Easier editing and duplication without quality loss ()
- (c) Compatibility with VHS tapes ()
- (d) No need for digitization ()

8. Which of the following is a digital video camera format developed by Sony?

(a) Videodisk ()

(b) VHS ()

(c) DVCAM ()

(d) SECAM ()

9. Embedded font technology on the web is mainly used to

(a) display text in a consistent style across different systems ()

(b) increase file size ()

(c) convert text into images ()

(d) reduce screen resolution ()

10. Which factor has the greatest impact on the smooth delivery of multimedia content over the web?

(a) Font size ()

(b) Bandwidth availability ()

(c) Screen resolution ()

(d) Browser type ()

B. Indicate whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark :

1×5=5

1. EPS is a vector graphics format that can contain both vector and raster elements.

(T / F)

2. Delay effect permits you to create an echo effect of your audio track by replaying the sounds of the selected audio portion after a certain period of time.

(T / F)

3. As per follow-through and overlapping action principle of animation, when objects come to a standstill after being in motion, different parts of the object will stop at same rates and time.

(T / F)

4. Analog video is often transmitted as composite video, where colour and brightness information are combined into a single signal.

(T / F)

5. DSL allows to transmit data as pulses of light, offering exceptionally high speeds and reliability.

(T / F)

C. Write short answers on the following :

2×5=10

1. What are the key characteristics of TrueType fonts?

2. Explain the reverb sound effect.

3. Explain the anticipation principle of animation.

4. What are the advantages of non-interlaced video?

5. Explain the role of text in web multimedia.

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