



# MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : OECCS701B Multimedia Systems

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

## Group-A (Very Short Answer Type Question)

1. Answer any ten of the following : [ 1 x 10 = 10 ]
- A type of optical media?
  - Tag is used to create a numbered list in HTML?
  - In Audio & Video compression, the term RGB means
  - State characteristic of a multimedia system?
  - Which Image files are lossy format?
  - DVD stands for
  - The \_\_\_\_\_ defines the syntax of markup constructs and include additional definitions such as character entity references.
  - PDF/A format is
  - What are multimedia software?
  - A smaller version of an image is called a
  - \_\_\_\_\_ refers to information types synthesized by the computers.
  - In Video Compression, an independent frame that is not related to any other frame is called

## Group-B (Short Answer Type Question)

Answer any three of the following

[ 5 x 3 = 15 ]

- Briefly explain JPEG image compression with block diagram. [ 5 ]
- Define spatial and temporal redundancy? What is QoS? [ 5 ]
- Write the components of multimedia. [ 5 ]
- What is Text? What is rich text? What is glyph in Unicode standard? [ 5 ]
- Write a short note about Video Conferencing. [ 5 ]

## Group-C (Long Answer Type Question)

Answer any three of the following

[ 15 x 3 = 45 ]

- What is the purpose of synchronization? Describe the synchronization accuracy specification factors. [ 7 ]
  - Differentiate between CAV for hard disks and CLV for CDs. Describe Mode 1 and Mode 2 of CD-ROM. [ 5 ]
  - What do you mean by CCD? Why is it used? [ 3 ]
- What are lossy and lossless compression techniques? Give example of each kind. [ 4 ]
  - Briefly explain JPEG image compression with block diagram. [ 6 ]
  - Write the display sequence and transmission sequence for video frames. Why are they different? [ 5 ]
- What is sampling? Why is it required in multimedia? Define quantization error with a simple example. [ 5 ]
  - State the Nyquist sampling theorem. A communication channel can carry signal with frequency from 20 Hz to 20 KHz. Determine the sampling frequency. [ 5 ]
  - What are different image file formats? [ 5 ]
- Why synchronization is necessary in multimedia? Define spatial and temporal redundancy? [ 5 ]
  - What is CAV and CLV in case of spinning disk media? [ 5 ]
  - Describe briefly the display system technique and raster scan method. [ 5 ]
- What is Multimedia Database? Describe in brief how image database is constructed. [ 5 ]

[7]

(b) What is K-d tree? Explain the structure of 2-dimension K-d tree by using following points:

- [(6, 1), (5, 5), (9, 6), (3, 6), (4, 9), (4, 0), (7, 9), (2, 9)]

[3]

(c) Define QBIC.

\*\*\* END OF PAPER \*\*\*

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