

CS/B.Tech/IT/Odd/Sem-7th/IT-702/2015-16



**MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY,
WEST BENGAL**

IT-702

MULTIMEDIA

Time Allotted: 3 Hours

Full Marks: 70

*The questions are of equal value.
The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.
All symbols are of usual significance.*

**GROUP A
(Multiple Choice Type Questions)**

1. Answer all questions. 10×1 = 10

(i) Morphing means

- | | |
|-----------------------|---------------------|
| (A) changing position | (B) changing shapes |
| (C) changing colors | (D) none of these |

(ii) Kerning is

- | | |
|----------------------------------|---------------------------------------|
| (A) vertical gap | (B) horizontal gap between characters |
| (C) horizontal gap between words | (D) none of these |

(iii) File format of text is

- | | |
|----------|-------------------|
| (A) pdf | (B) jpg |
| (C) tiff | (D) none of these |

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Turn Over

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(iv) Which bit of architecture Unicode makes use of?

- | | |
|------------|------------|
| (A) 4-bit | (B) 8-bit |
| (C) 16-bit | (D) 32-bit |

(v) What is the aspect ratio of HDTV?

- | | |
|---------|----------|
| (A) 4:3 | (B) 3:2 |
| (C) 9:4 | (D) 16:9 |

(vi) Device independent color model is

- | | |
|----------|-----------------|
| (A) CMYK | (B) CIF L*a* b* |
| (C) HSB | (D) RGB |

(vii) Raster scanning starts from

- (A) top left corner of the screen
(B) top right corner of the screen
(C) bottom left corner of the screen
(D) bottom right corner of the screen

(viii) NTSC is a

- (A) digital video standard
(B) analog video standard
(C) audio file standard
(D) text file standard

(ix) The MIDI standard specifies how many channels?

- | | |
|--------|--------|
| (A) 16 | (B) 24 |
| (C) 32 | (D) 40 |

(x) CD ROM operates on

- | | |
|------------|------------|
| (A) 1 mode | (B) 2 mode |
| (C) 3 mode | (D) 4 mode |

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GROUP B
(Short Answer Type Questions)

Answer any *three* questions.

3×5 = 15

2. What do you mean by synchronization? Explain synchronization accuracy specification factors. 1+4
3. Explain the terms 'hypertext' and 'hypermedia'. What is leading? 4+1
4. What is Quad tree? Explain insertion with example. 2+3
5. Write down the basic differences between traditional and multimedia file system? 5
6. What do you mean by Sampling and Quantization error? 5

GROUP C
(Long Answer Type Questions)

Answer any *three* questions.

3×15 = 45

7. What are different image file format? Explain Discrete Cosine Transformation. Why is DCT useful in compression? 4+7+4
8. (a) What is multimedia database? Describe in brief how the image database is constructed. 3+4
- (b) What do you mean by I-frame, B-frame and P-frame in the context of video compression? Explain with proper picture and example. 4+4

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9. (a) Define R-tree? Write down the structure of K-d tree. 2+3
- (b) Describe in brief multimedia open document architecture. 3
- (c) What is Huffman coding? Explain the concept of Huffman coding with the help of an example. 3+4
10. (a) A magnetic disc pack has 12 surfaces out of which 10 are recordable. Each surface has 50 tracks and each track is divided into a number of sectors. If the total capacity of the disc is 50000 KB and the capacity of each sector is 512 bytes, then (3+3)
 - (i) How many sectors are present on each track?
 - (ii) How many cylinders are present in the disc pack?
- (b) How CD is different from DVD? 3
- (c) Differentiate between CAV and CLV? 3
- (d) What do you mean by MODE-1 and MODE-2 of a CD-ROM? 3
11. Write short notes on any *three* of the following: 3×5
 - (a) Video on demand
 - (b) CCD
 - (c) SGML
 - (d) MIDI
 - (e) Quality of service.