

B TECH
(SEM VIII) THEORY EXAMINATION 2017-18
MULTIMEDIA SYSTEMS

Time: 3 Hours

Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

- 1. Attempt *all* questions in brief. **2 x 10 = 20****
- a) Explain the term multimedia?
 - b) Why software needs to be a quality product?
 - c) Discuss the role of multimedia in the field of business?
 - d) Define various audio file formats.
 - e) What are some animation file formats?
 - f) What is the basic concept of color?
 - g) Describe the term speech compression.
 - h) What do you mean lossy compression?
 - i) Difference between video and animation.
 - j) Difference between Interactive media and hypermedia.

SECTION B

- 2. Attempt any *three* of the following: **10 x 3 = 30****
- a. Explain lossless audio methods.
 - b. What factors determine the quality of the sound file? What steps are involved in producing digital audio? Explain briefly.
 - c. State and explain the three main properties of a color source that the eye makes of. Hence explain the meaning of the terms “luminance”, “chrominance”, and “color difference” and how the magnitude of each primary color present in the source is derived from these.
 - d. Discuss spiral model? Discuss the relative advantages of arithmetic coding over Huffman coding. In what way would you consider Huffman algorithm superior to arithmetic coding.
 - e. Briefly explain why we need to be able to have less than 24-bit color and why this makes for a problem.

SECTION C

- 3. Attempt any *one* part of the following: **10 x 1 = 10****
- a. What are dictionary-based compression techniques? How are they different from other conventional coding schemes?
 - b. Discuss the relative merits and demerits of dictionary-based compression schemes. Discuss the genesis of dictionary-based compression schemes.
- 4. Attempt any *one* part of the following: **10 x 1 = 10****
- a. Differentiate I-Frame and B-Frame.
 - b. What motion compression is used for MPEG video compression?

- 5. Attempt any *one* part of the following: **10 x 1 = 10****
- a. What is meant by the term frequency and temporal masking of two or more audio signals?
 - b. What is multimedia document architecture?
- 6. Attempt any *one* part of the following: **10 x 1 = 10****
- a. Explain multimedia authoring tools. Define any three.
 - b. Elaborate BMP image file format.
- 7. Attempt any *one* part of the following: **10 x 1 = 10****
- a. What do you mean LZW and LZ?
 - b. Write about run length encoding in detail.