

POKHARA UNIVERSITY

Level: Bachelor Semester: Fall Year : 2020
 Programme: BE Full Marks: 100
 Course: Multimedia Systems Pass Marks: 45
 Time : 3hrs.

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

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Define multimedia system. Explain the main properties of multimedia. 8
 b) State the Nyquist Sampling theorem for lossless digitization. Calculate the file size (in Mb) for 10 seconds of stereo music sampled at CD-quality sampling rate having bit depth of 16 bits. 7
2. a) Define the term speech. Explain the components of speech recognition and understanding. 7
 b) Explain the image recognition steps with suitable diagram. 8
3. a) List out the important measures for visual representation and explain each of the measures in brief. 8
 b) Explain the technique used by Huffman coding. Construct the Huffman coding for the following grey level and calculate the average length. 7

Grey level	0	1	2	3	4	5	6	7
No. of pixels	30	35	38	10	15	10	38	80

4. a) Explain DCT based JPEG image compression technique. 8
 b) What are the differences between CD-ROM (XA) form-1 and CD-ROM (XA) from-2. Illustrate above with a block diagram. 7
5. a) Define real time system. Explain the characteristics of real time OS. 7
 b) Define hypermedia. Differentiate between SGML and ODA. 8

6. a) What is the relationship between hypertext, hypermedia and multimedia? Explain in brief. 7
 b) What do you understand by Quality of Service? Explain its different parameters. 8
7. Write short notes on: (Any two) 2×5
 a) Lossless vs Lossy compression
 b) Computer Video Format
 c) Data stream characteristics for continuous medium