

26 C TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2075 Bhadra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BCT	Pass Marks	32
Year / Part	IV / II	Time	3 hrs.

Subject: - Multimedia System (Elective III) (CT78503)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Explain the global structure views for multimedia systems and also briefly explain the multimedia application development method. (5+4)
2. Explain in detail the process of speech recognition and generation. Calculate the file size in bytes for a 30 second recording at 44.1 KHz, 8 bits resolution stereo sound. (5+5)
3. What are bitmap images? Explain the advantages and disadvantages of bitmap over vector images. (3+6)
4. Differentiate between video and animation. Explain the various techniques associated with animation and also explain the various software tools available for animation nowadays? (4+7)
5. Compare JPEG and MPEG. What are the steps to create the Huffman code tree? Explain with example how Huffman code reduce the file size? (4 +4+6)
6. Discuss the user interface design process for multimedia with block diagram. (9)
7. Explain the abstraction levels of the programming of multimedia with block diagram. (9)
8. Explain the applications of multimedia in media entertainment such as interactive TV and video on demand. (9)

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1. What are the different stages in multimedia application development? Explain with example. (3+6)
2. Explain about audio hardware and audio software. Differentiate between MIDI over digital audio. (5+5)
3. Explain the steps of the JPEG compression process in detail. (9)
4. Different colour models are often used in different applications. What is the CMYK colour model? Give an application in which this colour model is mostly used and explain the reason. (3+3+5)
5. Explain why lossy data compression is sometimes preferred over lossless. Justify. A certain source emits symbols {A,B, C, D, E} with corresponding probabilities $P(A)=0.06$, $P(B)=0.48$, $P(C)=0.02$, $P(D)=0.20$, $P(E)=0.24$. Create a Huffman code tree and also derive the Huffman code for each symbol. (4+5+5)
6. Explain the general design guidelines for the multimedia user interface design and also mention the multimedia interface components. (5+4)
7. Explain the abstraction levels of the programming use in multimedia system with block diagram (9)
8. Explain the applications of multimedia in Video Conference system with example. (9)
