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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Electronics and Communication Engineering

Semester End Examination; Dec - 2017 / Jan - 2018

Multimedia Communication

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

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|------|---|----|
| 1 a. | Define the term multimedia. Explain four types of communication network that are used to provide multimedia communication services. | 10 |
| b. | With a neat diagram, describe an application that involves both text and image. | 4 |
| c. | Define the term “www”. Bring out the different interactive applications performed over internet. | 6 |
| 2 a. | Explain different communication modes associated with transfer of information over the communication channel. | 10 |
| b. | With relevant diagrams, describe the packet switched network in detail. | 6 |
| c. | Define the term ‘QOS’. Explain the different ‘QOS’ parameters associated with packet switched network. | 4 |

UNIT - II

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|------|--|---|
| 3 a. | With a neat block diagram, explain a signal encoder design along with associated waveforms. | 6 |
| b. | Describe how different types of texts are represented in various documents? | 6 |
| c. | With neat diagram, explain Raster scan principle in television / computer monitors. | 8 |
| 4 a. | Derive the time taken to transmit the following digitized images at both 64 kbps and 1.5 Mbps: | 4 |
| | i) 640 x 480 x 8 VGA compatible image ii) 1024 x 768 x 24 SVGA compatible image. | |
| b. | With a neat block diagram, explain how colour image is captured? | 8 |
| c. | With a neat schematic diagram, explain Audio / sound synthesizer. | 8 |

UNIT - III

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|------|---|----|
| 5 a. | Describe different source encoding techniques adopted in image compression. | 6 |
| b. | A series of messages is to be transferred between two computers over a PSTN. The messages comprises just the characters A through H. Analysis has shown that the probability (relative frequency of occurrence) of each character is as follows : | 10 |
| | A and B = 0.25, C and D = 0.14, E, F, G and H = 0.055. | |
| | Use Huffman code to derive a code word set and prove this is the minimum set by constructing the corresponding Huffman code tree. | |

- c. Write short note on Dictionary based coding. 4
- 6 a. With a neat block diagram, explain the working principle of MPEG-4 coding. 10
- b. With a neat block diagram, explain the operation of basic ADPCM signal encoder and decoder. 10

UNIT - IV

- 7 a. Describe the role of each of the five layers of TCP/IP reference model with the aid of a diagram. 10
- b. Explain protocol stack to support email over internet. 5
- c. Explain the process of inter working unit using 323 gateway. 5
- 8 a. Explain the two party call set procedure using H-323 gate keeper. 7
- b. With a neat block diagram, explain electronic commerce. 7
- c. Explain the transmission format for movie/video on demand. 6

UNIT - V

- 9 a. With necessary diagram and waveforms, explain cable TV network. 12
- b. With relevant diagram, explain HFC network. 8
- 10 a. With a neat diagram, explain the various principle of HTTP standard. 10
- b. Explain the following :
- | | | | |
|-----------------|----------|--|----|
| i) HTTP | ii) HTML | | 10 |
| iii) Hyper text | iv) URL. | | |

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