

**B. N. BANDODKAR COLLEGE OF SCIENCE, THANE**  
S. Y. B. SC. (INFORMATION TECHNOLOGY) SEMESTER – IV ADDITIONAL EXAMINATION; JUNE  
2015  
COURSE CODE – USIT402

**Duration: 2½ Hrs**

**Total**

**Marks: 75**

**N.B. 1. All questions are compulsory.**

- Q. 1**      **Answer any two out of following**      **10**
- a Write a short note on Multiple media and non-linearity.
  - b What are hardware and software required for Multimedia playback and production?
  - c Write a short note on uses of multimedia in a field of Educational Purposes & Tourism and travel industry.
  - d What are the steps required for creating multimedia presentation.
- Q. 2**      **Answer any two out of following**      **10**
- a What is meant by sampling rate? How is it related to the quality of the digital output signal?
  - b With the help of neat labeled diagram explain encoding and decoding cycle.
  - c What is pulse modulation & what are its different variants?
  - d What are the importance and drawbacks of digital representation?
- Q. 3**      **Answer any two out of following**      **10**
- a What are different types of text? Explain any two in detail.
  - b How does the CMYK color model represent color information? Why is it called subtractive model?
  - c What are the different types of scanner? Explain any two in detail.
  - d What are the different basic steps involved in image processing?
- Q. 4**      **Answer any two out of following**      **10**
- a Explain how an aspect ratio, synchronization, resolution and frame rates are helpful in performing Raster Scanning Principle?
  - b With the help of neat labeled diagram explain additive and subtractive color mixing.
  - c Define psychoacoustics. What are the different characteristics of psychoacoustics? Explain any two in detail.
  - d With the help of neat labeled diagram explain working of PDP.
- Q. 5**      **Answer any two out of following**      **10**
- a A document contains an alphabets A to E having the number of frequencies as follows      A = 24, B = 12, C = 10, D = 8, E = 8. Use Huffman coding to derive a codeword set for each.
  - b What are the different types of compression based on the kind of redundancies exploited? Explain in detail.
  - c What are the different types of Video Compression technique? Explain any two in detail.
  - d What is JPEG? Explain objectives of JPEG Image Compression Standard.
- Q. 6**      **Answer any two out of following**      **10**
- a Write a short note on following:
    - a. Scripting language metaphor
    - b. Slide show metaphor
    - c. Hierarchical metaphor
    - d. Iconic/flow-control metaphor
    - e. Frames metaphor

- b Explain all the different factors involved in Visual Design?
- c What are the advantages of storyboarding?
- d In multimedia how many ways are there to format and deliver users message? Explain in detail.

Q. 7

**Answer any three out of following**

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- a What are the various media that are normally incorporated in multimedia presentation? Give some examples how information may be conveyed through each of this media components?
- b What is meant by Gamma correction and why is it necessary?
- c What are the different modes of JPEG? Explain any one in detail.
- d Give overview of how to use macromedia flash player tool.
- e With the help of neat labeled diagram explain any two steps involved in analog to digital conversion.
- f Write a short note on sensors used for TV camera.

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