

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

**Duration: 2½ Hrs**

**Marks: 75**

**Total**

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

- Q. 1      Answer any two out of following      10**
- a What is meant by Multimedia? Explain any two characteristics.
  - b Explain any two uses of Multimedia in detail with example.
  - c What are the different scopes of Multimedia?
  - d What different steps are required for promotion of multimedia based content in sector of IT marketplace?
- Q. 2      Answer any two out of following      10**
- a What are analog signals and their essential properties?
  - b Explain all fundamental properties of wave in detail.
  - c What is the need of digital signal? Explain Sampling process in detail.
  - d Explain Nyquist Sampling theorem and its importance in detail.
- Q. 3      Answer any two out of following      10**
- a What is the advantage of hypertext ? Distinguish between anchor and target document.
  - b What is meant by continuous tone, half tone and bitone images?
  - c Explain in detail device dependency and gamut of color models.
  - d How does the RGB color model represent color information? Why is it called an additive model?
- Q. 4      Answer any two out of following      10**
- a Define Psychoacoustics. Explain any three characteristics of it in detail.
  - b Define the following terms :
    - a. Sound
    - b. Acoustics
    - c. Bio-acoustic
    - d. Aero-acoustic
    - e. Frequency
  - c With the help of neat labeled diagram explain all the characteristics of sound.
  - d Write a short note construction and working of LCD.
- Q. 5      Answer any two out of following      10**
- a What is compression? Explain the need of compression?
  - b Based on methodologies what are the different types of compression? Explain in detail.

- c What are the different types of lossless compression? Explain any one in detail.
- d A Document contains letter A to F with frequencies as indicated A=0.25, B=0.1, C=0.2, D=0.15, E=0.26, F= 0.04 then use Huffman coding to derive a codeword set.

**Q. 6**      **Answer any two out of following**      **10**

- a What are the different types of Multimedia Authoring? Explain any four.
- b Write all the different steps involved in multimedia production.
- c What are the different issues involved in Multimedia Application Design. Explain any one issue in detail.
- d Enlist all the stages involved in Authoring. Explain any two in detail.

**Q. 7**      **Answer any three out of following**      **15**

- a What is the role of testing and feedback stage in improving the quality of presentation?
- b With the help of neat labeled diagram explain Quantization and code generation steps in detail.
- c Differentiate between RGB color model and CMYK color model.
- d What are the different file formats are used for audio & video.
- e Write a short note on hierarchical mode of JPEG .
- f What are the different barriers to the widespread use and success of authoring and presentation system? Explain any two in detail.

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