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Total No. of Questions : 09

B.Tech. (ECE) (2012 to 2017 E-II) (Sem.-7)

SPEECH & IMAGE PROCESSING

Subject Code : BTEC-912

M.Code : 71916

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

- a. How image is formed?
- b. What is Sampling and quantization?
- c. What do you understand by connectivity?
- d. Write four medical applications of image processing.
- e. Draw block diagram of Digital image processing.
- f. What is color image?
- g. What are boundaries in image processing?
- h. What do you mean by lossy compression?
- i. How voice is produced in human vocal?
- j. Write elements of speech synthesis.

SECTION-B

2. Explain different stages of Image processing.
3. Explain convolution properties in Fourier transform image processing.
4. What do you mean by image enhancement?
5. What are the elements of speech synthesis and speech recognition?
6. Explain block diagram of speech recognition system.

SECTION-C

7. Describe the edge linking, Thresholding and boundary detection procedure in detail.
8. Explain DFT and FFT in speech processing.
9. Write short notes on :
 - a. Wiener filtering
 - b. Edge detection and shape description

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.