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**E Reg. No. :**

**Question Paper Code: 57P22**

Ph.D COURSE WORK DEGREE EXAMINATION, NOV 2017

Elective

Communication Systems

15PCM514 - MEDICAL IMAGE TECHNIQUES

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

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| 1. | (a) | Explain doppler ultrasound and colour flow mapping. Also give the application of diagnostic ultrasound. | CO1- U | (20) |
|  |  | Or |  |  |
|  | (b) | Explain about the ultrasound ecography with neat sketch.  | CO1- U | (20) |
|  |  |  |  |  |
| 2. | (a) | Explain about the X-ray computed tomography with the sectional imaging. | CO2-U | (20) |
|  |  | Or |  |  |
|  | (b) | Explain in detail the Image reconstruction using Fourier method and Iterative methods. | CO2-U | (10) |
|  |  |  |  |  |
| 3. | (a) | List the Nuclear Magnetic Resonance pulse sequences and detail its importance in NMR imaging. | CO3-Ana | (10) |
|  |  | Or |  |  |
|  | (b) | State the principles of magnetic resonance imaging pulse sequence and explain its image acquisition and reconstruction techniques.  | CO3-Ana | (20) |
|  |  |  |  |  |
| 4. | (a) | Give a detailed comparison between positron emission tomography, single photon emission computed tomography and emission computed tomography. | CO4-Ana | (20) |
|  |  | Or |  |  |
|  | (b) | Explain various MOEA local search techniques.  | CO4-Ana | (20) |
|  |  |  |  |  |
| 5. | (a) | Describe about the various aspects of infrared imaging system.  | CO5- U | (10) |
|  |  | Or |  |  |
|  | (b) | Describe the working and application of various thermography imaging systems.  | CO5- U | (20) |
|  |  |  |  |  |