**Pre. Ph.D. Course Work (2017 Course ) SUPPLEMENTARY :**
**( Electronic Engg. ) : JUNE- 2019**

**SUBJECT : PAPER – II : RECENT ADVANCES IN ELECTRONICS ENGINEERING**

Day : Thursday
Date : 27/06/2019

**S-2019-5408**

Time : 10.00 AM TO 1.00 PM
Max. Marks : 100

**N. B. :**

1) Attempt **ANY FIVE** questions from each section.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer books.
4) Draw neat and labelled diagrams **WHEREVER** necessary.
5) Assume suitable data, if necessary.

## SECTION – I

**Q. 1** What is Graph Theory? How will you define probability model? Describe Graph Theory and probability model w.r.t. their applications in Engineering. **(10)**

**Q. 2** Using suitable examples, explain following: **(10)**

**a)** Color image processing

**b)** Motion picture analysis

**Q. 3** Which are the microwave antennas? Describe using suitable diagrams. **(10)**

**Q. 4** Give overview of 4G-LTE networks. **(10)**

**Q. 5** How will you define MOSFET and FINFET? Compare MOSFET w.r.t. FINFET. **(10)**

**Q. 6** Give brief overview of LoRa communication. **(10)**

## SECTION – II

**Q. 7** Explain bio-electric signals, electrodes and sensors. **(10)**

**Q. 8** What are the DSP processors? Explain in brief. **(10)**

**Q. 9** Discuss following in detail: **(10)**

**a)** Biological Neuron

**b)** Artificial Neuron electrical model

**Q.10** Describe the concepts of fuzzy logic and fuzzy sets. **(10)**

**Q.11** What is Silicon on Insulator? Describe its importance in Deep submicron VLSI Design. **(10)**

**Q.12** How will you correlate low power design w.r.t. Deep submicron VLSI Design. **(10)**

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