

Pre. Ph.D. Course Work (2017 Course) : SUMMER - 2018
(Electronic Engg.)

SUBJECT : PAPER – II (ELECTRONICS ENGINEERING)
(ADVANCES IN ELECTRONICS ENGINEERING)

Day : **Tuesday**
Date : **26/06/2018**

S-2018-4788

Time : **10.00 AM TO 01.00 PM**
Max. Marks : 100

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.

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- Q.1** What is Markov model and explain how it works. (10)
OR
Explain in brief the structure of log-linear model in two way table. (10)
- Q.2** Explain image segmentation using 1. Region Growing 2. Region Splitting and Merging. (10)
OR
What is spectrogram? What are their types? Explain their significance and application in speech processing. (10)
- Q.3** With neat diagram explain the two cavity klystron amplifier. (10)
OR
Explain the antenna pattern recorder w.r.t. RF magnitude and frequency. (10)
- Q.4** What are the radio channel characteristics used in indoor and outdoor channel modeling? (10)
OR
Compare 3G and 4G wireless networks in detail. (10)
- Q.5** What is the need of Nano Electronic Devices? Using suitable diagram, describe Nano MOSFET. (10)
OR
How FinFETs are beneficial in designing Nano devices? Explain working of FinFET. (10)
- Q.6** What is the origin of bioelectric signals? State their types and explain in brief. (10)
OR
Explain the principle of measurement of Unipolar and Bipolar techniques of bioelectric signals? (10)
- Q.7** With the neat block diagram explain the architecture of TMS 320C6XXX series DSP processor. (10)
OR
Distinguish between 32 bit and 64 bit processors. Give examples. (10)
- Q.8** Explain the structure of a biological neuron and its electrical model with neat diagram. (10)
OR
State the perceptron learning rule. Also explain its limitation and solution for the same. (10)
- Q.9** Explain any four fuzzy membership functions with their transfer characteristics. (10)
OR
State the operations on Fuzzy sets and the commutativity, associativity and distributivity properties of Fuzzy sets. (10)
- Q.10** What are the important aspects of deep submicron VLSI design? Explain in brief. (10)
OR
Which are the deep submicron transistor models? Give overview. (10)
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