

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,
LONERE – RAIGAD – 402 103**

Winter Semester Examination – December – 2019

Branch: M.Tech. (Electronics Engineering)
Subject:-NANO ELECTRONICS (MTEEC202)
Date:-13/12/2019

Sem.: II
Marks: 60
Time:3 Hrs.

Instructions to the Students

1. Each question carries 12 marks.
2. Attempt any five questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly.

(Marks)

- Q.1.** a) What is Etching? Explain in detail Wet and Dry etching method. (06)
b) Explain different chemical deposition methods. (06)
- Q.2** a)What is carbon Nanotubes? Explain electrical, mechanical and vibrational properties of Carbon nano tube. (06)
b) What is optical lithography? Explain. (06)
- Q.3.** a) Illustrate the design structure for Ferro electric FET. (06)
b) Write short note Super Conductor integrated circuit technology. (06)
- Q.4.** a) Describe the read and writing schemes for a ferro electric memory cell. (06)
b) What is the basic operation of DRAM cell? What are the challenges for Gb DRAM capacitors? (06)
- Q.5.** a) How does a Hard Disk drive works? (06)
b) Explain the principle of magneto-optical data storage and its material properties. (06)

Q.6. Write short notes on any Two of the following.

(12)

- a) Pre requisites of organic LED.
- b) Basic elements of a photonic network and their structure.
- c) Ball grid array and multichip module.

Paper End