

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER M. TECH DEGREE EXAMINATION

Electronics & Communication Engineering
(Telecommunication Engineering)

04EC7809—RF MEMS

Max. Marks: 60

Duration: 3 Hours

PART A

Answer All Questions

Each question carries 3 marks

1. List Technologies for MEMS characterization?
2. Describe the limitations of RF MEMS?
3. Discuss the process of wet etching?
4. Explain the major fabrication steps in LIGA process.?
5. List the parameters considered for the design of RF MEMS switch.?
6. Illustrate the use of MEMS tunable capacitors.
7. Discuss various MEMS varactors and their equivalent circuit?
8. What is a tunable resonator?

PART B

Each question carries 6 marks

9. Explain the potential applications of RF MEMS in wireless communication?
OR
10. With neat diagrams explain the basic fabrication process of MEMS in detail?
11. Discuss various material used for MEMS fabrication?
OR
12. Describe various micro fabrication techniques in MEMS?
13. Illustrate RF MEMS switches and its applications?
OR
14. Draw and explain the equivalent circuit of RF MEMS switch?
15. Discuss electromagnetic modelling of RF shunt switch?
OR
16. Explain the Fabrication of MEMS capacitive switch?
17. Explain Electrostatic tunable interdigital MEMS capacitor in detail?
OR
18. Explain various types of MEMS inductors in detail?
19. Explain the reconfigurable antenna using RF MEMS switch?
OR
20. Write down the fundamentals of MEMS tunable resonator?