

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SECOND SEMESTER M.TECH DEGREE EXAMINATION, MAY 2016

Electronics & Communication Engineering

(VLSI and Embedded Systems)

04EC6512—Introduction to MEMS

Max. Marks : 60

Duration: 3 Hours

PART A

Answer All Questions

Each question carries 3 marks

1. Describe MEMS and List any three MEMS Products.
2. Explain selectivity ratio.
3. Explain pyrolysis process in CVD.
4. Explain the significance of micro system packaging.
5. Describe the method of microsensors.
6. List out the pros and cons using piezo resistors and capacitors as signal transducer.
7. Explain the principle of micro motor.
8. Indicate the significance of electrostatic force on micro actuation.

PART B

Each question carries 6 marks

9. Indicate the Application of MEMS.
OR
10. Write short notes on silicon compound materials.
11. Illustrate the working principle of pressure sensor which is fabricated by using Bulk Micro-machining process.
OR
12. Write about LIGA process in detail
13. Explain briefly about chemical vapour deposition (CVD).
OR
14. Discuss about ion implantation process with neat diagram.
15. Discuss about wet and dry etching process.
OR
16. Illustrate essential packaging technologies used in MEMS
17. Write in detail about acoustic wave microsensor
OR
18. Illustrate the principle of micro thermal sensor.
19. Describe microactuation with shape memory alloy.
OR
20. With neat diagram, explain the working principle of micropump.