



QP CODE: 25050673



Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION DECEMBER 2025

First Semester

M Sc ELECTRONICS

Core Courses - EL010103 - IC FABRICATION AND MEMS

2019 Admission Onwards

21920215

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Draw the block diagram of an Intelligent microsystem.
2. What are micro optical components?
3. Why miniaturization is necessary in MEMS?
4. What is a Thermal sensor?
5. What is meant by quartz?
6. Define Epitaxy?
7. What is EDX?
8. List out different thin film active devices for fabrication.
9. Define isotropic etching.
10. What is anodic bonding?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Explain the application of MEMS in Agricultural Industry.
12. Explain a microaccelerometer with suitable diagram.
13. Explain the different types of dopants .
14. Explain the process of Photolithography. What are the different types of lithography.
15. Explain electroplating.





16. What are the main substrate materials in microsystem design? Explain.
17. What is Bio MEMs. Explain.
18. Explain NEMS.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Explain different principles used for microactuation with help of neat sketches.
20. Explain the working of a microgripper and a micromotor with necessary diagrams.
21. Give a broad classification of Silicon Compounds.
22. With the help of CAD tool, draw flowchart for microsystem design.

(2×5=10 weightage)

