

G 1674

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2015

Eighth Semester

Branch : Electronics and Communication Engineering/Electronics and Information Engineering

EI 010 804 L02/EC 010 804 L02—MICRO ELECTRO MECHANICAL
SYSTEMS (Elective III) [EI/EC]

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. Explain the multidisciplinary nature of MEMS.
2. Describe the method of micro sensors.
3. List out difference between MEMS and Microsystems.
4. Write short note on Photolithography.
5. Explain the LIGA process.

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Briefly explain about the typical MEMS products.
7. Describe microactuation with shape memory alloy.
8. Explain the Engineering Science and Microsystem design.
9. What are the micro systems fabrication process ?
10. Differentiate dry etching and wet etching in bulk micromachining.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each question carries 12 marks.

11. Explain the difference between MEMS and Microsystems.

Or

Turn over

12. Briefly explain the Evolution of Micro fabrication.

13. Describe the working of micro accelerometers.

Or

14. Write short notes on microfluidics.

15. Explain in detail about substrate and wafer involved in fabrication process.

Or

16. Describe the atomic structure of matter in MEMS devices.

17. Briefly explain the chemical vapour deposition.

Or

18. Explain the micro system fabrication process.

19. What are the mechanical problems associated with surface micromachining ?

Or

20. Explain in detail about the LIGA process.

(5 × 12 = 60 marks)