R09

Code No: C5710

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations March/April-2011
MICRO ELECTROMECHANICAL SYSTEMS
(VLSI SYSTEM DESIGN)

Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks
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1. Give an overview of MEMS manufacturing process and state how Micro electro mechanical systems (MEMS) responds to pressure input. [12]

2. a) Define the terms stress, strain, bending moment, deflection curve.
   b) What is meant by distribution force and how can the distribution force effect the MEMS. [12]

3. Using the Laplace transformation derive the filed for critical fringe field. [12]

4. Write a brief note on two terminals and three terminal MEMS structure. Also state the advantage of one over the other. [12]

5. Discuss in detail the MEMS application in frequency converters, wave shaping and RF Switches for modulation. [12]

6. Describe the process of using MEMS for measurement of at least four non electrical quantities. [12]

7. Write a brief note on silicon based MEMS's process flow. [12]

8. Write a brief note on Thin and thick film technologies for MEMS. [12]

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