Code No: D5204 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH II - SEMESTER EXAMINATIONS, APRIL/MAY 2012
DESIGN AND MANUFACTURING OF MEMS AND MICRO SYSTEMS
(DESIGN FOR MANUFACTURING)

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

Answer any five questions
All questions carry equal marks
- - -

1. Discuss about the evolution of micro fabrication. Explain chronological stages of evolution of micro fabrication.

2. List out and explain the application of MEMS in different industries.

3. Discuss the advantages of the use of Silicon as substrate material in electronic industry.

4. What is lithography? With the help of suitable diagrams explain various lithographic techniques.

5. What are the reasons for doping? What materials are generally used for doping in semiconductor industry? Explain their individual features.

6. Derive bending moment and bending stress equations for a thin plate with fixed edges subjected to laterally applied pressure.

7. Explain the steps involved in the design of micro fluidic network system.

8. Explain the fundamental concepts of computational fluid dynamics applied to MEMS.

****