

NAME.....

ROLL NO.....

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-2008**

**III B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS  
ADVANCED MANUFACTURING TECHNOLOGY  
(MECHATRONICS)**

AUG/SEP 2008

TIME-3 HOUR  
MARK-80

**ANSWER ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

1. (a) Enumerate the differences between orthogonal cutting and oblique cutting.  
(b) Write a brief note on tool signature.
2. (a) Describe the different attachments used for performing different operations on lathe.  
(b) What is the function of lead screw in thread cutting operation? With the help of neat sketch explain how it achieves this function.
3. (a) How are the tools held in a shaper? Explain briefly.  
(b) Describe the operation of cutting T - slots on a planer.
4. (a) What are the operations that can be performed on drilling machines? Explain.  
(b) Explain briefly the significance of the following parts in a twist drill
  - i. Margin
  - ii. Point
  - iii. Flutes
  - iv. Lips
5. Explain the following with the help of neat sketches.
  - (a) Key way milling
  - (b) Gang milling.
6. (a) What is cylindrical grinding and what are its advantages?  
(b) In order to have right type of grinding wheel, one should check many points. What are those points?
7. (a) Define tools, jigs and fixtures. What are their applications?  
(b) Distinguish between simple, compound and differential indexing.
8. (a) Explain the various limitations and industrial applications of Electro Chemical Machining.  
(b) Enumerate the advantages and limitations of Laser Beam Machining over other non-traditional machining processes.