Code No: NR412001 **NR**

IV B.Tech I Semester Supplementary Examinations, November 2005
TOOL DESIGN
(Production Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the influence of each geometrical parameter on the cutting tool performance? [8]
   (b) What is tool signature? Explain the tool geometry in MRS. [2+6]

2. (a) Explain
      i. form correction [4]
      ii. tool holding methods [4]
   (b) Explain the geometry of end milling cutter with a neat sketch. [8]

3. (a) i. Explain the concept of metal flow during drawing operation. [4]
      ii. Discuss the importance of clearance in drawing operation. [4]
   (b) i. Distinguish between blanking and piercing operations. [4]
      ii. Explain spring back and bending allowance. [4]

4. (a) What are the general requirements of a locating systems? Explain how do you select a locating system? [4+4]
   (b) Explain
      i. redundant location
      ii. Fool proofing
      iii. setting blocks
      iv. jig feet [4x2=8]

5. (a) Explain the following with their significance in forging die design.
      i. draft
      ii. parting line
      iii. allowances [2+2+4]
   (b) i. Explain Taylor's principle. [4]
      ii. Explain various types of basic fits. [4]

6. (a) Explain different types of Jig bushes. [8]
   (b) Explain
      i. GO gauge
      ii. NO -GO gauge [4+4]

7. (a) What are chip breakers? Explain different types of chip breakers with neat sketches. [2+6]

   (b) Explain pull and push types of Broaching using neat sketches and also explain their application in manufacturing. [8]

8. Explain any four of the following:

   (a) Drill geometry

   (b) process parameters

   (c) flow forming

   (d) plastics as tooling materials

   (e) pneumatic and hydraulic clamping [4x4=16]

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