

Code: 9A03503

**R09/SS**

B.Tech III Year I Semester (R09/R13) Regular & Supplementary Examinations December 2015

**MACHINE TOOLS**  
(Mechanical Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 Explain at least four types of chip breakers and their working with neat sketches.
- 2 With a block diagram of a lathe, explain in detail the various mechanical features of the same.
- 3 With a neat sketch, explain the process of vertical cutting using a shaper machine.
- 4 With neat sketches, describe multiple spindle drilling machine and gang drilling machine.
- 5 (a) What is milling? Explain the working principle of milling.  
(b) Explain various types of milling methods.
- 6 Explain briefly:
  - (a) Oxychloride bond.
  - (b) Resinoid bond.
  - (c) Shellac bond.
  - (d) Rubber bond.
- 7 (a) Define honing process.  
(b) With a neat diagram, explain the honing process
- 8 What is the principle of "Six-point location"? Explain with reference to jigs and fixtures?

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