

College of Engineering, Pune
Department of Production Engineering and Industrial Management
End Sem. Examination (Sem-I, 2013-14)
Subject:- Machine Tool Design (PE 403)
Course: B. Tech (Prod./Sandwich)
Class B. Tech.

Date:-

Time :- 3 Hrs.

Full Marks: 60

- Answer any six questions.
- All questions carry equal marks.

- Q-1) Enumerate rules for choosing best ray diagram in machine tool drive. What is meant by deviation diagram?
- Q-2) Show that for stability of machine tool guide $0 < x_A < L/6$ is desirable where L – length of machine tool and x_A – point of position of reaction A at guide.
- Q-3) How do you find pressure on power screw thread? How do you calculate dynamic load rating of power screw?
- Q-4) Describe the methodology to find out static compliance of a lathe machine.
- Q-5) What is the best section for designing machine tool bed? – Discuss. Describe bed material and its requirement. Why stiffeners are used in bed sections?
- Q-6) With neat sketch describe electrical quick-brake system in machine tool motor drive.
- Q-7) What do you understand by open loop, closed loop, adaptive control of CNC machine. Describe axes designation in CNC lathe and Drill.
- Q-8) Write short notes on
- i) M, G code of CNC machine.
 - ii) Recirculating Ball Screw.