

**End Semester Examination**

**(PE206) Manufacturing Engineering-1**

**Programme: S. Y. B. Tech. (Mech. Engg.)**

**Year : 2013-14**  
**Duration : 3 hrs.**

**Semester : I**  
**Max. Marks : 60**

**Instructions:**

1. **Solve ALL Questions.**
  2. Electronic non-programmable calculator is permitted.
  3. Figures to right indicate full marks.
  4. Draw neat figures wherever required.
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**Q.1 Attempt any TWO:**

- a) State the different methods of taper turning used in lathe and explain any two with neat sketches. 5
- b) Explain following lathe operations with neat sketches 5
  - i. Eccentric Turning
  - ii. Knurling
- c) Classify the drilling machines and draw the neat sketch of Sensitive Drilling Machine. 5

**Q.2 Attempt any TWO:**

- a) Draw the neat sketch of following tools and label them properly 5
  - i. Twist Drill
  - ii. Reamer
- b) Differentiate between the Capstan Lathe and Turret Lathe and draw the block diagrams of each. 5
- c) Explain the centrifugal casting process with neat sketch. 5

**Q.3 Attempt any TWO:**

- a) What is meant by surface grinders? Explain various types of surface grinders with neat sketches and state the applications of them 5
- b) State different types of bonds and bonding processes used in the manufacturing of grinding wheels. 5
- c) Explain the principle and applications of Lapping process. 5

- Q.4**
- a) Explain 'Column and Knee type Vertical milling machine' with neat sketch. 5
  - b) Explain construction and working of 'Universal dividing head' with suitable sketch. 5

- Q.5**
- a) What is meant by 'Angular Indexing'? Explain with suitable example. 5
  - b) Discuss construction and working of 'Crank and slotted link mechanism' with neat sketch. 5

- Q.6**
- a) Explain 'Auto-feed mechanism' used in shaper with neat sketch. 5
  - b) Explain 'Shielded metal arc welding' process. 5

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