

**B.Tech. MECHANICAL ENGINEERING  
(BTMEVI)**

**Term-End Examination**

**June, 2014**

**BIME-014 : PRODUCTION TECHNOLOGY - II**

*Time : 3 hours*

*Maximum Marks : 70*

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*Note : Answer any five questions. All questions carry equal marks. Assume suitable data if any missing.*

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1. (a) Explain the working principle of a lathe machine. Also explain any two operations that can be performed on the lathe machine. 7
- (b) Sketch and describe the difference between "three jaw universal" and "four jaw independent" chucks. 7
  
2. (a) Explain the difference between a Push Cut Shaper and a Pull Cut Shaper. With the help of a simple sketch, explain the quick return mechanism of a shaper. 7
- (b) Discuss the common work-holding devices used on shapers, slotters and planners. 7
  
3. (a) Describe the difference between a horizontal milling machine and a vertical milling machine. Name any three types of milling cutters. 7
- (b) Explain the difference between face milling and end milling. 7

4. (a) With the help of neat sketches, explain the horizontal pull broaching operation and the vertical push broaching operation. 7
- (b) Discuss the advantages and limitations of broaching process. 7
5. (a) Give classification of drilling machine. Sketch and describe various elements of a radial drilling machine. 7
- (b) Describe the constructional features of a vertical boring machine. 7
6. (a) Discuss the various types of bonding materials used for making grinding wheels. 7
- (b) Sketch and explain the working of an external cylindrical grinding machine. 7
7. (a) What do you mean by APT ? Describe main features of APT. 7
- (b) Discuss the advantages of CNC machines over corresponding NC machine. 7
8. Write short notes on any four of the following : 3½x4=14
- (a) Capstan Lathe
- (b) Taper Turning Operation
- (c) Slab milling
- (d) Turning centre
- (e) NC machine
- (f) Surface grinding machine
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