

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

Term-End Examination

December, 2016

00712

BIME-014 : PRODUCTION TECHNOLOGY – II

Time : 3 hours

Maximum Marks : 70

Note : Attempt any *five* questions. All questions carry equal marks. Use of scientific calculator is permitted.

1. (a) Explain briefly the parts of a lathe with a neat sketch. 7
- (b) List and describe commonly used lathe attachments on the lathe machines. 7
2. (a) Briefly explain the classification of shapers. Explain table feed mechanism with a neat sketch. 7
- (b) Explain the difference between a push cut shaper and a pull cut shaper. Explain the Quick return mechanism of shapers with neat sketch. 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) Sketch and describe the essential elements of a two-fluted twist drill. How are drill signs designated? 7
4. (a) Describe the principle of operation of a shaper. Briefly explain the different types of shapers. 7
- (b) What do you mean by boring and counterboring? Why is it often necessary to bore a hole? 7
5. (a) Describe the various types of cutters that are commonly used on milling machines. What machining operations can be done on milling machines? 7
- (b) Explain the working of a surface broaching machine with a neat sketch. 7
6. (a) How is the grinding wheel selected for a particular job? What do you mean by dressing and truing of a grinding wheel? 7
- (b) Give a classification of drilling machines with neat sketch and describe various elements of a radial drilling machine. 7

7. (a) Briefly describe the various components of an NC machine. 7
- (b) What are the reasons for implementing CNC controlled production machine tools ? Also state three advantages of CNC machines over corresponding NC machines. 7
8. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Taper Turning Operation
 - (b) Centreless Cylindrical Grinding
 - (c) Milling Attachments
 - (d) Computer Aided Part Programming
 - (e) APT Programming
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