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BIME-014

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

Term-End Examination

00740

June, 2016

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 the working principle of a lathe machine with a neat sketch. *10*

(b) Explain the following terms : *4*

(i) Cutting speed

(ii) Depth of cut

2. (a) Sketch and describe the difference between "three jaw universal" and "four jaw independent" chucks. *7*

(b) Explain the working of a horizontal shaper with a neat sketch. *7*

3. (a) Discuss the common work-holding devices used in shapers, slotters and planers. 7

(b) Explain the working of a plane column and knee type milling machine with a neat sketch. 7

4. (a) Explain the difference between up milling and down milling with suitable sketches. 7

(b) What are the principal types of broaching machines ? Why are robust fixtures required to support jobs to be broached ? 7

5. (a) Describe the continuous type broaching machine. How is the broaching machine specified ? 7

(b) Describe the constructional features of a horizontal boring machine. 7

6. (a) What are the various factors to be considered in selection of grinding wheel ? Discuss each in detail. 7

(b) Explain the working of an external cylindrical grinding machine. 7

7. (a) What do you mean by APT ? Describe the main features of APT. 7

(b) What is an NC part programming ? Describe the sequences of using NC words in a part programming. 7

8. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$

(a) Gear Hobbing

(b) CNC Machine Tools

(c) Slotter Machines

(d) Milling Machine Indexing