Name : ……………………………………………………

Roll No. : ……………………………………………………

Invigilator's Signature : ……………………………………

CS/M.TECH(ME)/SEM-1/PTM-103/2011-12
2011
THEORY OF MACHINING

Time Allotted : 3 Hours   Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

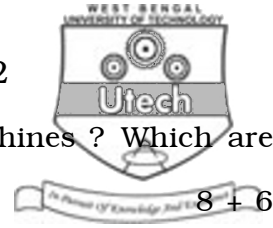**Answer any *five* questions.**   5 × 14 = 70

1. Explain the mechanics of basic machining operations.

2. Discuss in brief the mechanism of chip formation. Mention the conditions for various types of chip formation.   10 + 4

3. Derive the relation for final cutting tool temperature due to heat generation during cutting.

4. Explain the different modes of cutting tool failures.

5. Find the relation for optimum cutting speed at minimum cost for a given value of feed.

6. Discuss the important factors on which the performance of a grinding wheel depends.

7. What are the sources of vibration in machines ? Which are the remedial measures ? 8 + 6

8. Write short notes on any *four* of the following : $4 \times 3\frac{1}{2}$

   i) Grinding wheel wear

   ii) Machine references system

   iii) Cutting fluid

   iv) Machinability & tool life

   v) Cutting tool materials

   vi) Sharpening and resharpening of cutting tools.

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