

B.Tech IV Semester (ME-A) Mid Semester Exam- II
PRODUCTION TECHNOLOGY – I

Date: 07-04-2025
Max. Marks: 15

Academic Session: 2024-25
Time: 50 minutes

Note: Attempt all questions. Specify the assumptions and assume suitable data if not given & highlight it. This will carry weightage.

1. A 200 mm long and 30 mm diameter bar is turned on a lathe at a 0.25 mm/rev feed. The operating cost of the machine is Rs. One per min. and the cost of tool is Rs. 5 per cutting edge. Tool changing time is 30 sec. the setting and idle time involved in each piece is one minute. Two alternate materials X and Y are available. Their cost and tool life equation (for a feed of 0.25 mm/rev) are given below.

Material	Tool life Equation	Cost/piece
X	$VT^{0.10} = 67$	Rs. 125/-
Y	$VT^{0.10} = 90$	Rs. 150/-

Find which tool material should be used from cost viewpoint.

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2. List major milling operations and explain plain slab milling operation and face milling operations with neat sketches. **04**
3. Give classification of Grinding process and describe external centreless grinding with a neat sketch. **04**
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