

Code No: 155CE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year I Semester Examinations, February - 2022****METROLOGY AND MACHINE TOOLS****(Mechanical Engineering)****Time: 3 hours****Max. Marks: 75****Answer any five questions
All questions carry equal marks**

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1. Explain the following:
 - a) Friction of chip and tool.
 - b) Heat generated and dissipated in metal cutting. [7+8]
2. Name different methods of taper turning? Describe these methods using neat sketches. [15]
3. Explain principal parts of the drilling machine and sketch the mechanism of a drilling machine. [15]
- 4.a) State the working principle of a planer.
b) With a neat sketch, show the various parts of a planer. [7+8]
5. With the help of a neat sketch, explain the column and knee type milling machine and name its main parts. [15]
- 6.a) Describe the parts and conditions under which broaching would be the preferred method of machining.
b) Explain the differences between and similarities among shaving, broaching. [8+7]
7. With the help of neat sketches, discuss metal limits for hole and shaft gauging. [15]
- 8.a) Distinguish between comparison and direct measurement of surface roughness.
b) Explain Taylor–Hobson Talysurf. [7+8]

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