

Code No: 55018

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B. Tech III Year I Semester Examinations, November - 2015

MACHINE TOOLS

(Common to ME, MSNT)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Explain the back rake and side rake angles and their use. What is the effect of built up edge?
b) Write about Constructional features of speed gear box and feed gear box. [7+8]
- 2.a) Give a short description about the various operations that can be performed on an engine lathe.
b) What are the different types of tool holding devices? [10+5]
- 3.a) Differentiate between planning and slotting machines.
b) Describe the principal parts of shaper with a neat sketch. [8+7]
- 4.a) Explain the operational principle of Fine boring machines ?
b) Explain the working principle of Deep hole drilling machine with neat diagram. [8+7]
- 5.a) Name the various milling attachments? Explain universal milling machine with neat diagram.
b) What is indexing? Describe methods of indexing. [9+6]
- 6.a) What are the different types of grinding machines? Draw and describe the surface grinding machine.
b) How does the area of contact affect grinding wheel selection? [10+5]
- 7.a) What is the difference between lapping and honing?
b) A key way of size 10 mm wide, 8 mm deep is to be cut in a shaft of 100 mm long by using broaching tool. Calculate i) cutting length of broach and ii) number of teeth on broach? [8+7]
- 8.a) Explain the principles of design of jigs and fixtures and uses.
b) What are the types of clamping and work holding devices? Explain them with neat sketches. [8+7]

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