

Code No: **R31036**

R10

Set No. 1

III B.Tech I Semester Supplementary Examinations, October/November - 2017

METAL CUTTING & MACHINE TOOLS

(Mechanical Engineering)

Time: 3 hours**Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks

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| 1 | a) Define various tool angles used in single point cutting tool with neat sketch. | [8M] |
| | b) What are the adverse effects are of built up edge? How can we avoid them? | [7M] |
| 2 | a) What are machining operations that can be performed on a centre lathe? Explain them with sketches. | [8M] |
| | b) Differentiate between single spindle and multi spindle automatic lathes. | [7M] |
| 3 | a) Explain the working principle of slotting machine with neat sketch. | [8M] |
| | b) What are the advantages, limitations and applications of planner? | [7M] |
| 4 | a) Explain clearly with a neat sketch the construction and working principle of a horizontal boring machine. | [8M] |
| | b) Why are drilled holes superior to punched holes in vessel work? | [7M] |
| 5 | a) Show the nomenclatures of face milling cutter with sketch and mention their functions. | [8M] |
| | b) What is an indexing? Explain compound indexing. | [7M] |
| 6 | a) Describe in detail the various arrangements of centreless grinding with neat sketches. | [8M] |
| | b) Why is it undesirable to continue running coolant on to a grinding wheel after the wheel has stopped? | [7M] |
| 7 | a) What factors govern the choice of a clamping device to achieve the purpose of clamping? Discuss them in detail. | [8M] |
| | b) Discuss the 3-2-1 principle of location. | [7M] |
| 8 | a) Explain the constructional features of a CNC machine. | [8M] |
| | b) Discuss the types of motion controls in CNC machines. | [7M] |
