

Exam No.

Total no. of printed pages: 02

T. E. Production (2012 course)
Machine Tool Engineering
Semester – II 2017 - 18

Time: 150 minutes

Maximum Marks: 70

Instructions to the candidate:

- (i) Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8 and Q9 or Q10.
 - (ii) Draw suitable diagrams wherever necessary.
 - (iii) Assume suitable data, if needed.
 - (iv) Figures to the right indicate full marks.
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- Q1. a) Differentiate between a centre lathe and a turret lathe. (6)
- b) Explain construction and working of a progressive action multi spindle automat with the help of a neat sketch. (4)

OR

- Q2. a) Explain with a neat sketch Swiss type single spindle automat. (6)
- b) How does a tool change occur in a typical automatic tool changer?
Explain with a neat sketch. (4)

- Q3. a) Discuss various guiding and traffic control systems In AGVS. (6)
- b) How are coordinate axes specified in a CNC system? (4)

OR

- Q4. a) Mention various types of conveyors and explain roller and belt conveyors with neat sketches. (6)
- b) Discuss closed loop NC system with the help of a neat sketch. (4)

Q5. a) Draw a neat sketch of EDM setup. Explain its working principle, operation, advantages and limitations. (10)

b) Discuss with the help of a neat sketch the mechanism of material removal and influence of process parameters on MRR of abrasive jet machining. (8)

OR

Q6. a) How is laser beam formed? Can it be used for machining? If yes, how? Explain the working of a solid state laser. (10)

b) Explain Ultra Sonic Machining with the help of a neat sketch. Discuss its process parameters affecting MRR, advantages and limitations. (8)

Q7. a) Explain with neat sketch thread rolling process. State the advantages and limitations of the process. (8)

b) Explain with a neat sketch gear hobbing operation. Give its advantages and limitations. (8)

OR

Q8. a) Why gear finishing is important? Explain any three gear finishing processes in detail. (8)

b) Discuss various types of self opening die heads (8)

Q9. a) Discuss the meaning and need of machine tool maintenance. (8)

b) Explain corrective maintenance and preventive maintenance with an appropriate example. (8)

OR

Q10. a) Explain with a neat sketch a bath tub curve.. (8)

b) Define availability, maintainability, failure density and failure rate. (8)