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B.E/B.Tech DEGREE EXAMINATIONS, APRIL/MAY 2013

Manufacturing Engineering(R 2008)

Third Semester

MF9201- MANUFACTURING PROCESSES I

Time:3 hr

Max.Mark:100

Answer ALL Questions

Part-A (10 x 2 =20 Marks)

1. Make a short note Heat zones in cutting.
2. Write short note on oblique cutting
3. How are planners classified?
4. Differentiate between up milling and down milling.
5. What is meant G-Ratio?
6. What is an abrasive? What are super abrasives?
7. What is meant by differential indexing?
8. Make a short note on template gear cutting methods.
9. Write short note on cam controlled automats.
10. Name few reasons for vibration and chatter in machining.

Part-B (5 x 16 =80 Marks)

11. i) What are the major types of chip formation during machining? Explain the operating conditions for various types of chip formation. (8)  
ii) What is meant by coated tools? Discuss different types of coated tools, with their advantages. (8)
  12. a.i) Enumerate the purpose of various work holding devices used on a centre lathe.(8)  
ii) Explain construction features of a Jig Boring Machine. (8)
- Or
- b.i) Explain with neat sketches the procedure for carrying out the following operations on a shaper: Horizontal cutting, Vertical cutting, concave surface, keyway cutting (8)  
ii) Explain with neat sketches the different types of planer table drive mechanisms. (8)

13. a.i) Explain about gear hobbing process. (8)  
ii) Describe with a neat sketch gear shaping process. (6)  
Or  
b.i) Explain with neat sketches any two gear finishing methods. (8)  
ii) Explain the method of machining a bevel gear in a milling machine. (8)
14. a.i) Write short note on a) Lapping b) Honing (8)  
ii) Discuss the design considerations in grinding. (8)  
Or  
b. i) Explain Centreless grinding process. (8)  
ii) Explain about reconditioning of grinding wheel. (8)
15. a. Explain the various types of testing methods followed for testing machine tool accuracy and precision. (16)  
Or  
b. i) Discuss about any two transfer mechanism in machine tool automation. (8)  
ii) Discuss about the different types of structures used in machine tools. (8)
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