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**Question Paper Code: 31473**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2016

Fourth Semester

Mechanical Engineering

01UME403 - MANUFACTURING TECHNOLOGY-II

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. How chip formation occurs in metal cutting?
2. What are the objectives and functions of cutting fluids?
3. What are the various thread cutting methods?
4. What are the advantages of automatic lathes?
5. What is meant by up milling and down milling?
6. What are the differences between drilling and reaming?
7. Mention four important factors that influence the selection of grinding wheel.
8. What is gear hobbing?
9. What is a preparatory function? How is it important in CNC programming?
10. What is meant by APT program?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the various cutting tool materials used in metal cutting? (16)

Or

(b) What is tool life? Explain the parameters that influence the tool life? (16)

12. (a) Explain in detail about the various taper turning methods? (16)

Or

(b) (i) State the differences between capstan and turret lathes. (8)

(ii) Write short notes on automatic screw type machines. (8)

13. (a) (i) Discuss the principle of operation of a shaper with a neat sketch. (10)

(ii) Discuss the various hole making processes. (6)

Or

(b) Write briefly about broaching machines and its operations with neat sketches. (16)

14. (a) (i) Explain the working principle of center less grinding process. (8)

(ii) Explain the working mechanism of cylindrical grinding. (8)

Or

(b) Explain the following gear cutting process

(i) By a formed tool

(ii) By shaping (16)

15. (a) (i) Explain the main difference between point to point and continuous path of numerically controlled machine tools. (8)

(ii) Describe the design considerations of CNC machines. (8)

Or

(b) (i) Explain the hydrostatic slideways used in CNC machines. (8)

(ii) Explain the various steps to be followed while developing CNC part programs. (8)