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Question Paper Code: 54703

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Mechanical Engineering

15UME403 – MANUFACTURING TECHNOLOGY – II

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Discontinuous chips are formed during machining of CO1- R
(a) Brittle metals (b) Ductile metals (c) Hard metals (d) Soft metals
2. Which of the following assumption is not valid for merchant circle diagram? CO1- R
(a) Continuous Chips (b) Discontinuous chips
(c) Cutting edge remains sharp (d) No built up edge
3. Spindle of a lathe is housed in CO2- R
(a) Tailstock (b) Headstock (c) Carriage (d) Apron
4. Which of the following cutting tool has highest hot hardness? CO2- R
(a) Ceramics (b) Cast alloys
(c) High speed steels (d) Carbon tool steel
5. The factor affecting size and surface and surface finish in broaching is CO3- R
(a) Proper tool design (b) Consistency of datum faces
(c) Strength of the part (d) Uniformity of material
6. horizontal type shaper is type of shaper according to CO3- R
(a) design of the table (b) position and travel of the ram
(c) type of cutting stroke (d) none of the mentioned

7. Removing dull grains in order to make grinding wheel sharp is known as CO4- R
 as
 (a) Loading (b) Glazing (c) Dressing (d) Trueing
8. Gears can be best produced on mass production by CO4- R
 (a) Shaping (b) Casting (c) Forming (d) Hobbing
9. Which of the following code will give linear interpolation movement? CO5- R
 (a) G00 (b) G78 (c) G01 (d) G65
10. Many number of machines are controlled by a central computer through a direct connection of telecommunication lines and in real time is called CO5- R
 (a) CNC (b) NC (c) DNC (d) FMS

PART – B (5 x 2= 10Marks)

11. List out the essential characteristics of a cutting fluid. CO1- R
12. List the various types of work holding devices used in lathe. CO2- R
13. Distinguish the differences between a shaper and planner CO3- R
14. A grinding wheel is specified as A 24 K 7 V. What does each letter indicates? CO4- R
15. Name the various elements of CNC machines. CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Explain the geometry of a single point tool with suitable sketches CO1- App (16)
 Or
 (b) (i) What is a chip Describe the different types of chips produced during metal machining with neat sketches? CO1- U (8)
 (ii) Discuss any four cutting tool materials used in metal cutting. CO1- U (8)
17. (a) Explain with neat sketch the various types of turning a taper in a lathe CO2- U (16)
 Or
 (b) Sketch and briefly describe the constructional features of swiss type automatic screw machine. CO2- U (16)

18. (a) With a help of a diagram explain crank and slotted link mechanism. CO3- U (16)

Or

(b) Explain the principle of broaching operation with neat sketch also explain the nomenclature of broaching tool CO3- U (16)

19. (a) Explain with neat sketch Radial drilling machine. CO4- U (16)

Or

(b) What are the various methods used for gear finishing? Discuss in detail with neat sketch. CO4- U (16)

20. (a) Explain the features of CNC machine CO5- U (16)

Or

(b) Discuss briefly about manual programming of a NC machine and also explain difference between manual and computer assisted part programming. CO5-App (16)

