Total No. of Questions : 10]

SEAT No. :

P3576

[Total No. of Pages : 2

[5560]-520

T.E. (Automobile) (Mechanical Engg.)

MANUFACTURING PROCESSES - II

(2015 Course) (Semester - II) (302051)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.***
2) ***Figures to the right indicate full marks.***
3) ***Use of electronic pocket calculator is allowed.***
4) ***Assume suitable data if necessary.***

Q1) a) Discuss the various types of chips produced during metal cutting, along with neat sketches. **[6]**

b) A tool life of 80 minute is obtained at a speed of 30 mpm and 8 minute at 60 mpm. Determine the following : **[4]**

i) Tool life equation.

ii) Cutting speed for 4 minute tool life.

OR

Q2) a) Draw a neat labelled sketch of radial drilling machine. **[4]**

b) What are the functions of cutting fluid? Discuss various types of cutting fluids. **[6]**

Q3) a) List out the various operations carried out on milling machine. Explain any two with neat sketch. **[6]**

b) Explain continuous broaching machines with working sketch. **[4]**

OR

Q4) a) Describe the tool and cutter grinder along with neat sketch. **[6]**

b) Explain "buffing" process. Mention the applications of "buffing". **[4]**

P.T.O.

Q5) a) Explain Laser beam machining process along with advantages, limitations and applications. **[8]**

b) Explain Abrasive Jet Machining Process along with advantages, limitations and applications. **[8]**

OR

Q6) a) Explain with neat sketches EDM process. State the advantages, limitations and applications. **[8]**

b) Explain Ultrasonic Machining (USM) process with its advantages, limitations and applications. **[8]**

Q7) a) Explain CNC machines with neat sketch. State its advantages and limitations. **[6]**

b) Write short note on "Automatic Tool Changer" (ATC). **[6]**

c) What are G codes & M codes? Explain with suitable examples. **[4]**

OR

Q8) a) Differentiate between "absolute and incremental positioning system" in CNC. **[6]**

b) Explain DNC machines with neat sketch. State its advantages & limitations. **[6]**

c) Explain subroutine and canned cycle. **[4]**

Q9) a) What is 3-2-1 location principle? Explain with neat sketches. **[6]**

b) What are the different types of jigs? Explain with suitable sketches. **[6]**

c) Explain with sketch any two "Indexing methods" used in jigs & fixtures. **[6]**

OR

Q10)a) List the various types of locating devices used in jigs & fixtures. Explain any one in detail. **[6]**

b) State various types of clamping devices used in jigs & fixtures and explain any one. **[6]**

c) Write short notes on Milling fixtures and Pokayoke concept in jigs and fixtures. **[6]**