

Total No. of Questions : 10]

SEAT No. :

P3576

[5560]-520

[Total No. of Pages : 2

**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]

