

Total No. of Questions : 8]

SEAT No. :

P7650

[6180] - 172

[Total No. of Pages : 2

T.E. (Mechanical Engineering) (Automobile)
MACHINING SCIENCE AND TECHNOLOGY
(2019 Pattern) (Semester - I) (Elective - I) (302045 B)

Time : 2 ½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Solve Q.1 or Q.2; Q.3 or Q.4, Q.5 or Q.6; Q.7 or Q.8,*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Assume suitable data, if necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of non-programmable electronic calculator is allowed.*

- Q1) a)** Describe balancing of Grinding wheel with Neat Sketch. [6]
b) Explain the factors in the selection of grinding wheel during grinding process. [6]
c) Explain with figure mounting of grinding wheels. [6]

OR

- Q2) a)** Explain the meaning of grain, grade and structure of a grinding wheel. [6]
b) Explain the meaning of Grinding wheel signature: W-C-500-H-4-V-17. [6]
c) Explain buffing process with neat sketch used in super finishing. [6]

- Q3) a)** List various types of clamping devices used in jig and fixtures. Explain any one in detail. [6]
b) Draw and Explain V-locators used in design of jigs and fixtures. [6]
c) Define fixture; explain with figure milling fixtures used in milling operations. [5]

OR

- Q4) a)** Write a short notes on welding fixtures used in industries. [6]
b) Explain principles of design of jigs and fixtures used in manufacturing processes [6]
c) What are the advantages of using jigs and fixtures in manufacturing process. [5]

P.T.O.

- Q5)** a) Discuss objectives and steps involved in process planning. [6]
b) Explain with figure various steps involved in computer aided process planning. [6]
c) Explain in brief material evaluation methods used in process planning. [6]

OR

- Q6)** a) Explain in brief the drawing interpretation and selection of machine and tooling in process planning. [6]
b) Write a short notes on economics of process planning. [6]
c) Explain the sets of documents required for process planning. [6]
- Q7)** a) Explain Linear and circular interpolation in CNC programming with G codes. [6]
b) Explain CNC machine with neat sketch, state its advantages and limitations. [6]
c) Explain with examples significance of canned cycle and subroutine used in CNC machine. [5]

OR

- Q8)** a) Differentiate between the absolute and incremental positioning system in CNC machine. [6]
b) Explain with figure tool length compensation and cutter radius compensation. [6]
c) Explain the following codes - G02, G84, M02, M06 and G17. [5]

