

Total No. of Questions : 4]

SEAT No. :

PC6

[6360]-6

[Total No. of Pages : 1

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

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4.
- 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) Discuss the various types of chips produced during Machining. [5]
b) Explain the tool designation in ASA system with an example. [4]
c) Derive an expression for a shear angle in terms of chip thickness ratio. [6]

OR

- Q2)** a) Define Machinability and Machinability index. Explain the factors affecting machinability. [6]
b) Explain the Mechanics of chip formation with the neat sketch. [5]
c) Calculate the tool life for the tool at speed of 24m/min, if the tool life is found 3 hours at speed of 18m/min. take $n = 0.125$. [4]

- Q3)** a) Explain in brief indexing method in milling for gear cutting with an example. [6]
b) Explain thread milling in brief. [5]
c) Write the factors essentials in selection of gear material. [4]

OR

- Q4)** a) Explain with neat sketch the process of Gear shaping. [6]
b) Explain with neat sketch the thread tapping. [5]
c) Explain any one method of gear inspection. [4]

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