Total No. of Questions : 8]

SEAT No. :

P344

[Total No. of Pages : 2

[6003]-425

T.E. (Mechanical/Automobile/Mechanical SW)

MACHINING SCIENCE AND TECHNOLOGY

(2019 Pattern) (Semester - I) (302045-B) (Elective - I)

Time : 2½ 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) Explain centerless grinding machine. **[6]**

b) Discuss the buffing process with its application. **[6]**

c) Explain any three types of grinding wheel with sketch and application. **[6]**

OR

Q2) a) Explain Dressing and Truing of Grinding wheel with sketch. **[6]**

b) Explain the meaning of Grinding wheel signature: 20-C-60-M-7-V-28. **[6]**

c) Differentiate between Lapping and Honing. **[6]**

Q3) a) Explain 3-2-1 Principle of location with neat sketch. **[6]**

b) Explain with neat sketch Pokayoke concept in jigs and fixture. **[6]**

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

OR

Q4) a) Write a short note on Modular fixtures. **[6]**

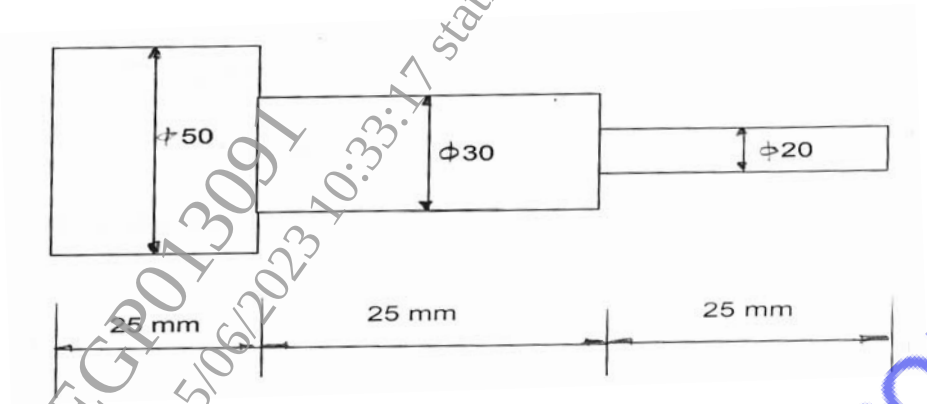
b) Draw and Explain Diamond pin locator. **[6]**

c) Explain template and box jig with a neat sketch. **[6]**

P.T.O.

Q5) a) Explain any two process planning activities in brief. **[8]**

b) Prepare the operation list to produce the following component, **[8]**



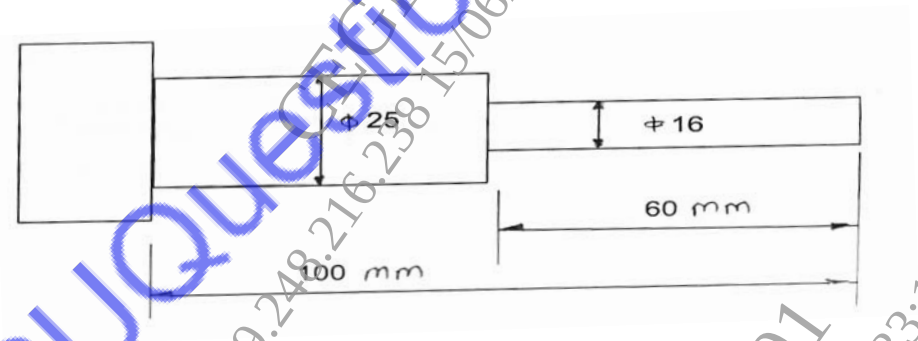
OR

Q6) a) Explain CAPP with advantages. **[8]**

b) Explain different cost involved in manufacturing. **[8]**

Q7) a) Explain in brief threading and grooving cycle with sketch. **[8]**

b) Write a part program for the following diagram, operations - facing, cleaning cut, reduction of dia. to 16 mm from 25 mm, feeds 200 mm/min, speed 800 rpm and depth of cut 2 mm per cut. **[10]**



OR

Q8) a) Differentiate between subroutine and canned cycles in CNC Programming along with one example of each. **[8]**

b) Explain the following codes with neat sketch: **[10]**

G02, G03, G40, G41 and G42

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