Total No. of Questions : 8]

SEAT No. :

PF5016

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

MACHINING SCIENCE AND TECHNOLOGY

(2019 Pattern) (Semester - V) (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 Balancing of Grinding wheel with Neat Sketch. **[6]**

b) Discuss the lapping process with neat sketch. **[6]**

c) Explain any three types bond used in grinding. **[6]**

OR

Q2) a) Explain any three artificial abrasives used in grinding wheels. **[6]**

b) Explain the meaning of Grinding wheel signature: W-C-10-E-5-V-17. **[6]**

c) Explain honing process with neat sketch. **[6]**

Q3) a) List various types of clamping devices used in jig and fixtures. Explain any one in detail. **[6]**

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

c) List types of jigs. Explain any two with neat sketch. **[6]**

OR

Q4) a) Explain in brief assembly fixture and inspection fixtures used in manufacturing process with suitable examples. **[6]**

b) List various types of locating devices used in jig and fixtures. Explain one in detail. **[6]**

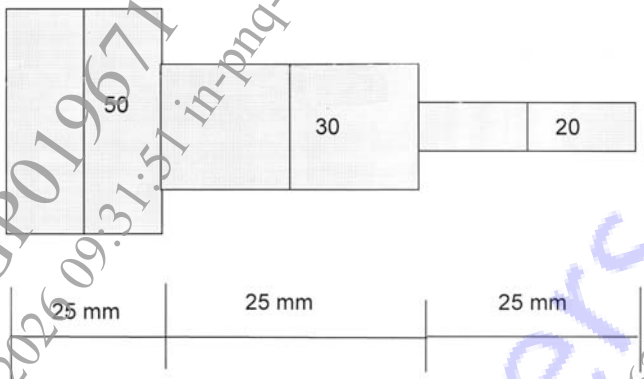
c) Explain 3-2-1 Principle of location with neat sketch. **[6]**

P.T.O.

Q5) a) Explain CAPP along with flow chart. **[5]**

b) Explain Work holding devices and Selecting quality assurance methods in process planning. **[5]**

c) Prepare the operation list to produce the following component, assume suitable data if required. **[6]**



OR

Q6) a) Explain material evaluation and selection of machine and tooling in process planning. **[5]**

b) Explain fixed and variable cost along with job costing in manufacturing process. **[5]**

c) Define Process planning and Prepare a process planning sheet for a part (any case) to be manufactured. **[6]**

Q7) a) Explain Linear and circular interpolation in CNC programming with G codes. **[6]**

b) Explain the steps involved in developing the CNC Part Program with example. **[6]**

c) Explain canned cycle for threading in proper word address format and example. **[6]**

OR

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

b) Explain the following codes G05, G28, M05, M09, G17 and G81. **[6]**

c) Explain with figure tool length compensation and cutter radius compensation. **[6]**

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