Q. P. Code : 39735

(3 Hours) (Total Marks: 80)

Please check whether you have the right question paper.

N.B: 1) Question no.1 is compulsory.
2) Attempt any 3 questions from remaining 5 questions.
3) Assume suitable data if required with proper justification.

Q1. Explain briefly 20
a) ATC
b) AS/RS
c) ISO coding for external turning tool holder
d) Conveyors used in maternal handling

Q2. The component shown in fig. below is to be completed on machining Centre. List all 20
the operations in correct sequence & tools in tabular form. Write CNC program for
the same.

ALL Dimensions are in mm.
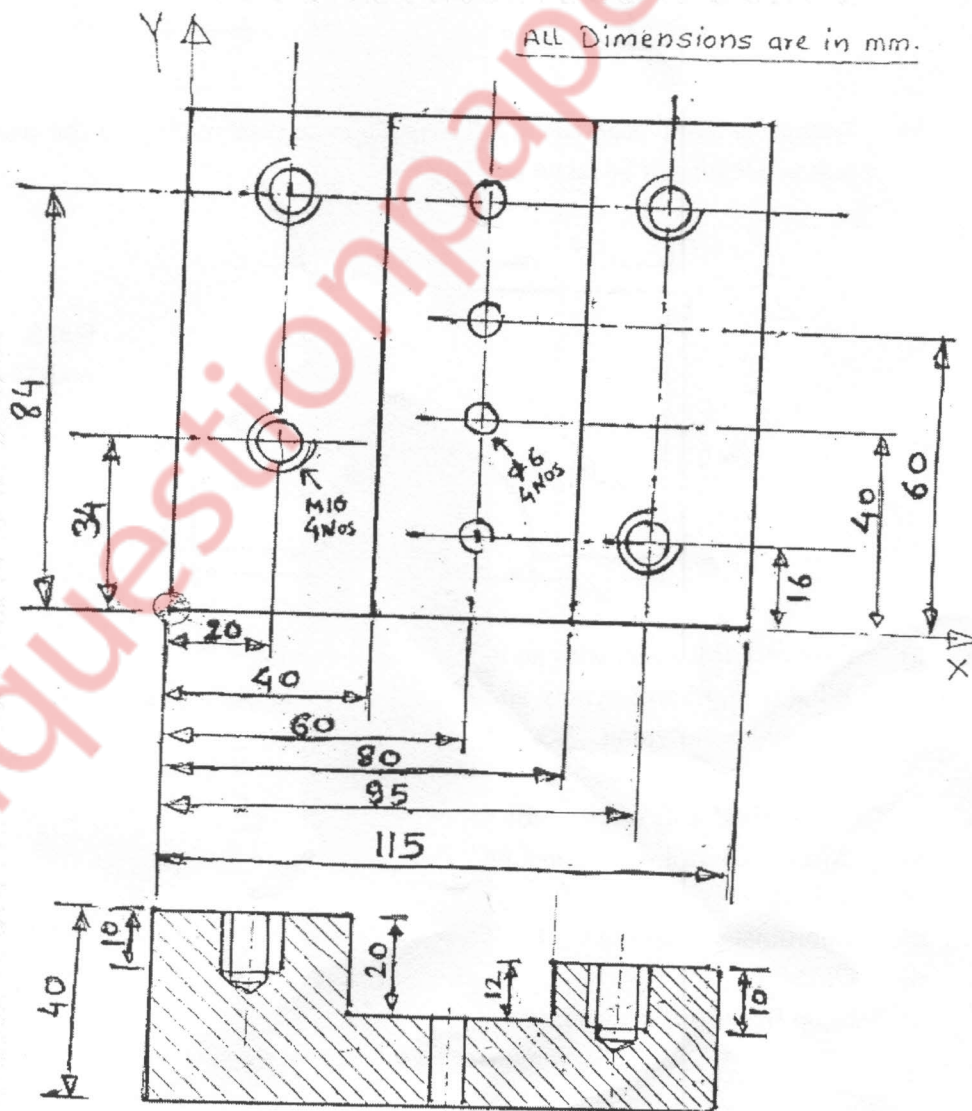
Q3. Differentiate the following (give only four points) **20**
   a) CNC and DNC
   b) M codes and G codes
   c) Linear and circular interpolation
   d) Absolute and linear encoder
   e) AC and DC motor.

Q4. a) Prepare the part program to completely machine the part in fig. below from rolled bar, **10**
      using CNC turning Centre. Use canned cycle, looping & jump statements.
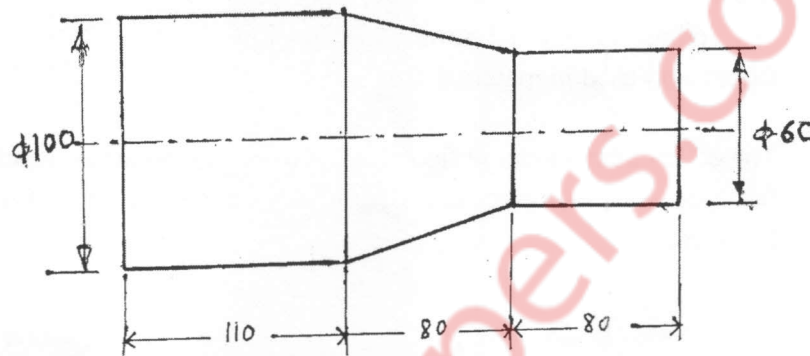
   b) Prepare an APT program to finish the profile (externally) for the part shown in fig. **10**
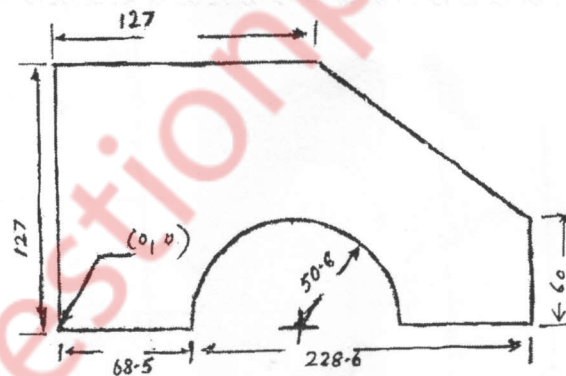   below. Depth can be taken as 15mm

Fig. 3
MATL – M.S.

Q5. a) Explain CIM wheel with an industrial application **10**
   b) What is rapid prototyping and rapid tooling? Explain in detail any one method used **10**
      in Rapid prototyping.

Q6. Write Short note on **(any four)** :- **20**
   a) Motion control system in CNC
   b) Axis drives
   c) Coordinate system in CNC
   d) CMM
   e) Shop floor control system

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