Q.P. Code :13773

**[Time: Three Hours]**   [Marks:80]

Please check whether you have got the right question paper.

N.B: 1.   Question.No.1 is compulsory.
        2.   Attempt any three questions out of remaining 5 questions.
        3.   Assume suitable data, if required.

1.   Explain in brief (any five)   20
            a)   FMS
            b)   AS/RS
            c)   ATC
            d)   Stepper motor
            e)   Machine language
            f)   Difference between G codes & M codes

2.   a)   Explain the advantages of canned cycle with example.   20
        b)   Describe Absolute Encoder briefly.
        c)   Explain briefly Rapid Prototyping
        d)   What are the factors to be considered for spindle design for turning centre?

3. a) Explain in detail Integrated production management system. How it is useful in reducing Time losses?   10
    b) Explain CIM wheel with an industrial application   10

4. a) A round plate of dia. 400 mm as shown in fig. below is to be machined on CNC Machining   20
        centre. List all the operations and tools in correct sequence in tabular form. Write CNC program
        for the same.

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[P.T.O]
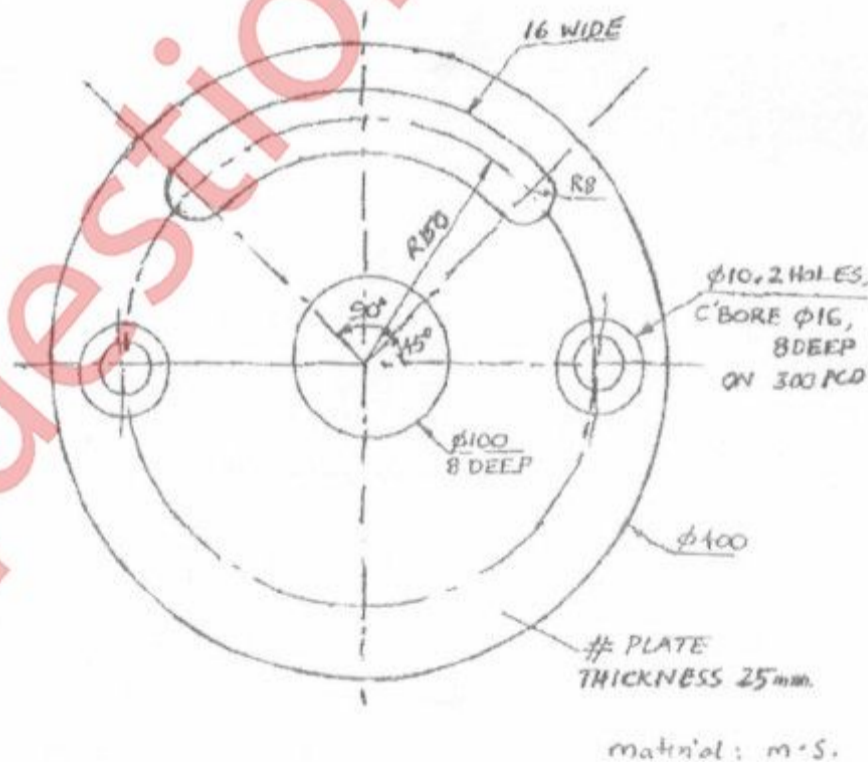
5.   a) Explain constant WIP (CONWIP)   20
     b) Write the Pro's & Con's of CNC machines.
     c) Explain the ISO coding for any one external turning tool holder.
     d) What is Ghost factory?
     e) Describe touch probe system used in CNC machining centre.

6.   a) Using cycles, write the part program to turn the component as shown in figure below. Material   10
         is En 8.
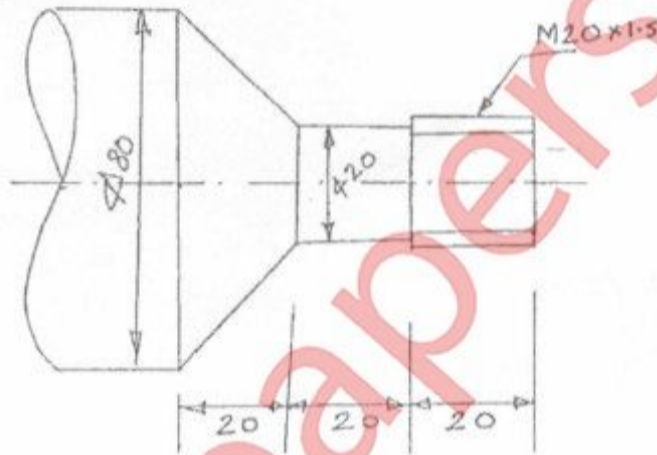
     b) Write a APT program for external profile milling of the component shown in fig. below.   10
         Thickness of the component is 15 mm.

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