

**SUBJECT CODE :72**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**T.E.(Mech) Examination Nov/Dec 2015**  
**Tool Engineering**  
**(Revised)**

[Time: Three Hours]

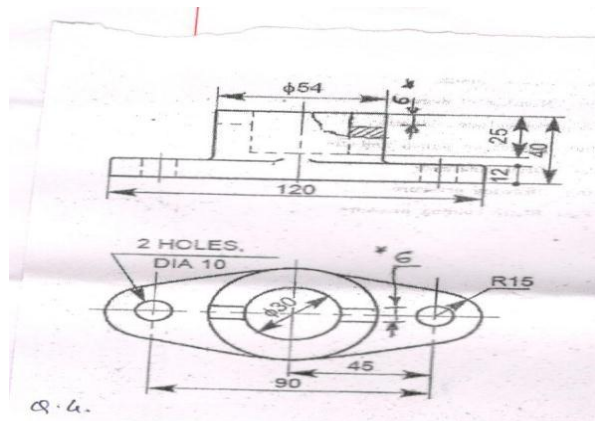
[Max. Marks: 80]

“Please check whether you have got the right question paper.”

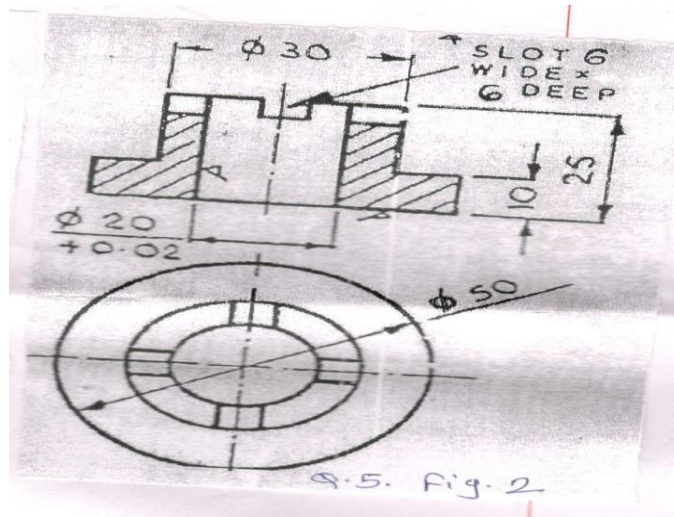
- N.B i) Attempt any three questions from each section  
 ii) Assume suitable data and dimensions if required.  
 iii) all dimensions are in mm.

**Section – A**

- Q1. a) What is rake angle? Explain its importance while machining hard material. 07  
 b) Draw neat sketch of Hob and give its nomenclature. 06
- Q.2 a) For a turning operation with H. S. S. tool for hot rolled 0.2% C- steel, the following data is given : 13
- Cutting speed = 0.2 m/s  
 Depth of cut = 3.2 mm  
 Feed = 0.5 mm/rev  
 $C = 15^\circ$
- Determine: cutting power, motor power and unit power.
- [Hint :  $\bar{F}_c = 162.4 f^{0.85} d^{0.98}$  kgf]
- Q.3 a) Explain types of drill bushes with neat sketch 07  
 b) What is chip breaker? Why chip breakers is implied on tool face 06
- Q.4 Design and draw drilling jigs for drilling the two boles of  $\varnothing 10$ mm in the component shown in figure 1. 13

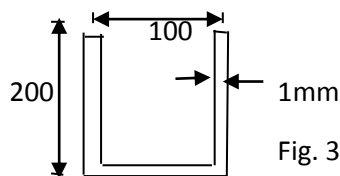


- Q.5 Design draw and dimension a milling fixture to mill slot of size 6mm and 6 mm deep in the component shown in the figure 2 14



**Section - B**

Q.6 A cylindrical cup as shown in fig.3 is to be drawn of CR sheet of 1mm thickness. Make necessary calculation to design a drawing die for this component. 13



Q.7 a) Explain the principle of metal cutting in sheet metal working. 07

b) Explain, "Bending terminology" with suitable sketch 06

Q.8 a) What are the factors considered while selecting an appropriate press 07

b) Explain 06

i) Blanking

ii) Notching

iii) Perforating

Q.9 a) Explain the basic rules for die design of forging 07

b) What are the materials used for forgings die block? Enlist the properties a material 06

Q.10a) Write note on press terminology 05

b) Advantages of multi impression dies 05

c) Bend allowance 04

