Day: Friday

Time: 2·30 P.M. To 5·30 P.M

Date: 02·12-2016

Max. Marks: 60

N.B.:
1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Use of non-programmable **CALCULATOR** is allowed.
4) Neat diagrams must be drawn **WHEREVER** necessary.
5) Assume suitable data if necessary.

Q.1 Explain the role of lubricants in wire drawing operation. Discuss various **(10)** lubricants and mode of applications with reference to its applications.

OR

Q.1 Derive an expression to find out the force required in tube drawing using plug. **(10)**

Q.2 With neat sketches explain the mechanical presses used for forging. What are **(10)** its advantages and limitations?

OR

Q.2 With suitable examples explain how draft, fillet and corner, shrinkage is applied **(10)** in design of forging dies.

Q.3 What are different types of rolling mills? Explain with neat sketches. **(10)**

OR

Q.3 Explain in details the concept of roll flattening. **(10)**

Q.4 Explain the blanking, punching, perforating, bending and lancing operations. **(10)**

OR

Q.4 Explain the process of electrohydraulic forming. **(10)**

Q.5 Design a progressive for making a square blank of 30mm side with a hole of **(10)** 15mm diameter at its center. Given that the shear stress is 180N/mm^2 and thickness is 2.25mm. Material- Aluminum.

OR

Q.5 Design a deep drawing die to draw a cup of diameter 40mm and height 60mm, **(10)** flange diameter 50mm. Given that UTS is 420N/mm^2 and thickness 1.8mm.

Q.6 Explain the types of extrusion dies. How the force required for extrusion may **(10)** be reduced with the modification in die.

OR

Q.6 Write a detailed note on impact extrusion. **(10)**

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32816

RAPTI – V (CBCS – 2014 COURSE): WINTER – 2016
SUBJECT: METAL FORMING

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