22491

24225

03 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) Define impression

b) List three types of stainless steel.

c) List any four properties of P20 steel.

d) State the working principle of grinding machine.

e) Name any two modern machines

f) Define annealing

g) State the importance of polishing in mould manufacturing.

Marks

2. Attempt any FOUR of the following: **12**

a) State the role of guide pillar and guide bush. Sketch its labeled diagram.

b) State any four important properties and any four important application of mild steel.

c) Explain working of cylindrical guiding machine with neat diagram.

d) Explain flame heat treatment used in hardening the surface of metal.

e) Explain working principle of lathe machine.

3. Attempt any FOUR of the following: **12**

a) State the names of types of Bolster. Explain any one of them with neat diagram.

b) State the importance of using beryllium and copper in mould manufacturing.

c) Explain the concept of CNC machining.

d) Describe step wise etching method for polishing of mould component.

e) Describe direct bolting method with neat diagram.

4. Attempt any THREE of the following: **12**

a) Identify the component of mould which ensure center line alignment of machine nozzle with sprue bush. Describe its utility with neat diagram.

b) Identify type of carbon steel having percentage of carbon as 0.05 - 0.15% State its important from properties.

c) Describe up stroke milling process with neat diagram.

d) Describe the case hardening process where electron beam used for the treatment.

e) State the steps carried out in bench fitting. Mention the precursions to be taken while bench fitting.

Marks

5. Attempt any THREE of the following: **12**

a) Differentiate between fixed half and moving half of injection mould with at least four points.

b) Suggest the metal used for making cavity plate. Justify the suggestion.

c) "Its important to test the hardness of metal with Rockwell hardness testes" Justify the statement.

d) Explain the working of EDM wire cut with neat diagram.

e) Explain U-Tub vibratory equipment for finishing of mould component

6. Attempt any TWO of the following: **12**

a) Describe the modern machine technique where work piece considered as anode and tool is considered as cathode. Draw a neat labelled diagram.

b) Differentiate between power saw and band saw with at least six points.

c) State the significance of tempering the steel after hardening. Explain three types of tempering.