

22446

11920

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) 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) Designate a tool 8 – 10 – 6 – 6 – 5 – 10 – 0.8 signature in ASA system.
- (b) Enlist the types of shapers.
- (c) Elaborate why the section of a sprue reduces downwards.
- (d) List types of electric furnace.
- (e) State jumping operation.
- (f) State the four advantages of MIG welding.
- (g) Define brazing.

2. Attempt any THREE of the following :

12

- (a) Explain the mechanics of chip formation with neat diagram.
- (b) Explain how size and specifications of a slotter are to be designated.
- (c) State two advantages and disadvantages of centrifugal casting. Write four applications.
- (d) Differentiate between hot working and cold working process. (four points)

- 3. Attempt any THREE of the following : 12**
- (a) Write down the steps involved for internal thread cutting on lathe machine.
 - (b) Draw a neat sketch and explain the accessory used to support long work.
 - (c) Explain angular shaping with neat sketch.
 - (d) Draw a neat sketch of Gating system. State the functions of any four elements.
- 4. Attempt any THREE of the following : 12**
- (a) Calculate the machining time for a steel drill 10 mm diameter to penetrate a 18 mm thick steel plate. Assume a feed of 0.2 mm/rev. and cutting speed for steel as 20 m/min.
 - (b) Explain slotted time quick return mechanism with neat sketch.
 - (c) State importance of colour scheme for pattern. Illustrate a common colour scheme.
 - (d) Write down the method used for following product :
 - (i) credit card
 - (ii) carrying case
 - (iii) hollow cylinder
 - (iv) knobs
 - (e) Explain cold rolling, a four high rolling mill is usually used.
- 5. Attempt any TWO of the following : 12**
- (a) Write down the basic parts of a lathe machine with their proper functions.
 - (b) Determine different defects in casting. State their causes and remedies (six).
 - (c) Differentiate between direct and indirect extrusion. Discuss their relative merits and demerits.
- 6. Attempt any TWO of the following : 12**
- (a) Explain the basic parts of a slotting machine with neat sketch.
 - (b) Classify closed die forging. Explain any one with neat sketch.
 - (c) Explain with sketch electron beam welding.
-