N.B. : (1) Question No. 1 is compulsory.
(2) Attempt any four questions out of remaining six questions.
(3) Figures to the right indicate full marks.
(4) Illustrate your answer with neat sketches.

1. Write short notes on any four of the following:
   (a) Blow Moulding
   (b) Up milling And Down Milling
   (c) Pattern Allowances
   (d) Welding Defects
   (e) Annealing
   (f) Centreless Grinding.

2. (a) Explain with neat sketch the construction, working and zones of cupola furnace.
    (b) Draw a neat well labelled diagram showing the different parts of Capstain lathe. State the function of each part.

3. Explain:
   (a) NC and CNC Machines.
   (b) Weldability.
   (b) Powder Metallurgy Process.

4. (a) Draw and explain Radial Drilling machine.
    (b) Explain the Quick return mechanism of a shaper.

5. (a) Sketch the following drilling operations:
    (i) Counter Boring
    (ii) Spot facing
    (iii) Reaming
    (iv) Tapping.
    (b) Compare TIG and MIG welding.

6. (a) Write the composition, properties and uses of—
    (i) Grey Cast Iron
    (ii) Phosphor Bronze
    (iii) Stainless Steel
    (iv) White Cast Iron.
    (b) Sketch the following milling operations:
    (i) Face Milling
    (ii) Spur Gear Cutting
    (iii) Form Milling
    (iv) Tee Slot Milling.

7. (a) Sketch and explain the Injection Molding process of plastic. State the advantages and limitations.
    (b) Explain different NDT Methods.