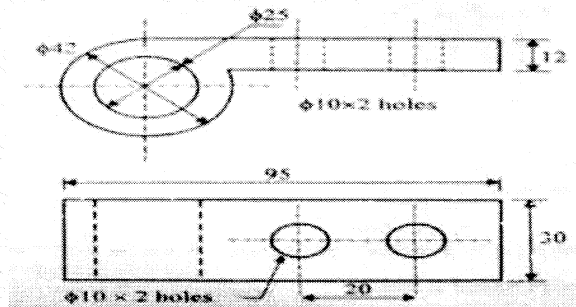


3 Hours

(80 Marks)

- N.B.: (1) All questions carry equal marks.
 (2) Question No.1 Compulsory.
 (3) Attempt any three from remaining five questions.
 (3) Figures to the right indicate full marks.
 (4) Draw neat sketches wherever necessary.

1. Write short notes on the following. (Any four) (20)
 - (a) Essential features of Jigs or Fixtures
 - (b) Fool Proofing
 - (c) C Clamps
 - (d) Broaching Fixture
 - (e) Indexing Devices
2. (a) With the help of neat diagrams explain 3-2-1 locating principle. (10)
 (b) Draw and explain multiple clamping and equalizing devices. (10)
3. (a) With the help of neat sketches explain various types of Jig bushes. (10)
 (b) Sketch and explain latch Jig and Channel Jig. (10)
4. Design a Jig for drilling two holes of 10 mm diameter on the given work piece. (20)



5. (a) With neat sketches explain different turning fixtures (10)
 (b) With neat sketches explain construction of Milling fixture (10)
6. (a) Describe Grinding fixtures. (10)
 (b) Explain essential features of an Indexing Jigs/fixtures. (10)
