

**R13**

Code: 13A03303

B.Tech II Year I Semester (R13) Regular Examinations December 2014

**MACHINE DRAWING**  
(Mechanical Engineering)

Time: 4 hours

Max. Marks: 70

All answer should be on the drawing sheet only  
Answers on the drawing sheet only will be valued  
First angle projection to be adopted

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**Section – I**

(Answer any two)

2 x 4 = 08 Marks

- 1 Show by sketches:
  - (a) Dimensioning of chamfers.
  - (b) Dimensioning of countersinks.
- 2 Show by sketches dimensioning of tapered features:
  - (a) External.
  - (b) Internal.
- 3 Sketch the following thread profiles for a nominal size of 30 x 3 mm, to a scale of 10:1.
  - (a) BSW thread.
  - (b) Square thread.

**Section – II**

(Answer any two)

2 x 10 = 20 Marks

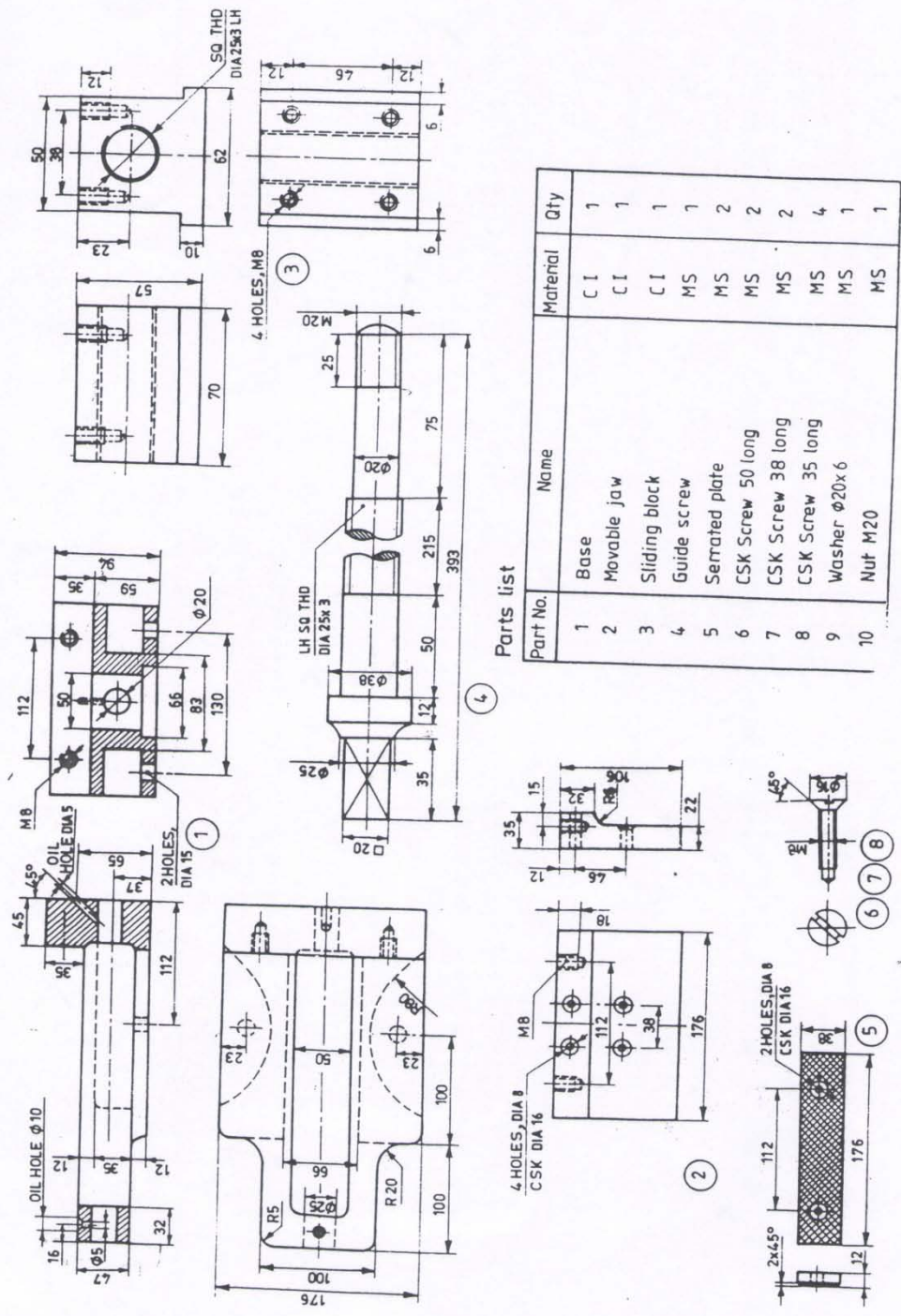
- 4 Draw three views of a hexagonal headed bolt of nominal diameter 30 mm and length 100 mm with a square nut and a washer in position.
- 5 Draw the half sectional view from the front and view from the side of a Cottered joint with sleeve to connect two shafts of 40 mm dia. each.
- 6 Draw the sectional view from the front (left half in section) and view from the above of a bushed journal bearing to support a shaft of dia. 50 mm.

**Section – III**

1 x 42 = 42 Marks

- 7 Assemble all parts of the Machine vice given in the fig. and draw (i) Sectional view from the front. (ii) View from the above and (iii) View from the left.

Contd. in page 2



Parts list

| Part No. | Name                      | Material | Qty |
|----------|---------------------------|----------|-----|
| 1        | Base                      | CI       | 1   |
| 2        | Movable jaw               | CI       | 1   |
| 3        | Sliding block             | CI       | 1   |
| 4        | Guide screw               | MS       | 1   |
| 5        | Serrated plate            | MS       | 2   |
| 6        | CSK Screw 50 long         | MS       | 2   |
| 7        | CSK Screw 38 long         | MS       | 2   |
| 8        | CSK Screw 35 long         | MS       | 4   |
| 9        | Washer $\phi 20 \times 6$ | MS       | 1   |
| 10       | Nut M20                   | MS       | 1   |

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