



C09-M-407

3507

BOARD DIPLOMA EXAMINATION, (C-09)
APRIL/MAY—2015
DME—FOURTH SEMESTER EXAMINATION
PRODUCTION DRAWING

Time : 3 hours]

[Total Marks : 60

PART—A

5×4=20

- Instructions** : (1) Answer **all** questions.
(2) Each question carries **five** marks.

1. The dimensions of a hole and shaft are given below :

$$\text{Hole : } 50 \begin{matrix} 0.039 \\ 0.000 \end{matrix} \quad \text{Shaft : } 50 \begin{matrix} 0.062 \\ 0.041 \end{matrix}$$

Find (a) shaft tolerance, (b) hole tolerance, (c) maximum allowance, (d) minimum allowance and (e) type of fit.

2. Sketch the symbols for the following characteristics to be toleranced :

- (a) Perpendicularity
- (b) Runout
- (c) Parallelism
- (d) Angularity
- (e) Straightness

3. Give the range of roughness values in microns obtained in the following manufacturing processes :

- (a) Lapping
- (b) Surface grinding
- (c) Turning
- (d) Forging
- (e) Die casting

4. * Write the meaning of the following designations of mechanical components :
- (a) Square bolt M12 × 70 N
 - (b) Ball bearing 308
 - (c) Taper key 12 8 50
 - (d) Fe 470 W
 - (e) Splines 6 23 26

PART—B

40

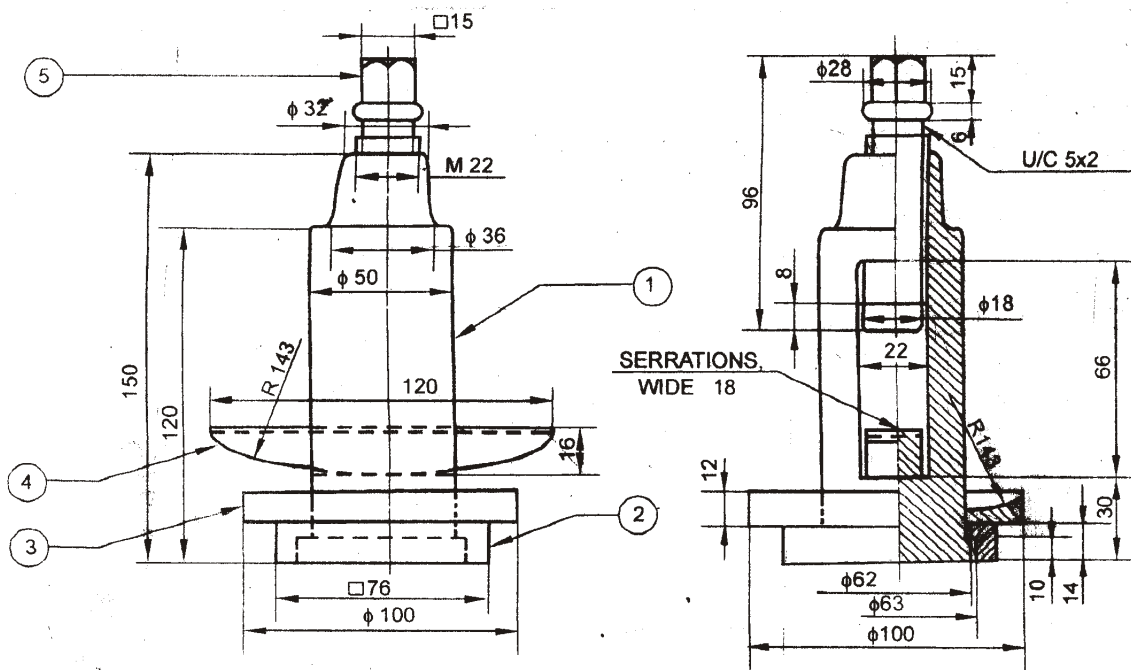
- Instructions :** (1) Answer *any one* question.
(2) Each question carries **forty** marks.
(3) Priority should be given to the accuracy, neatness and dimensioning
(4) Standard components need not be drawn as part drawings.

5. Study the assembly drawing (Page 3) of single tool post :
20+5+5+5+5=40

- (a) Draw the component drawings.
- (b) Indicate dimensional tolerances and fits on important mating parts.
- (c) Indicate the geometrical tolerances wherever needed.
- (d) Indicate the recommended surface roughness values on all parts.
- (e) Prepare the process sheet for block.

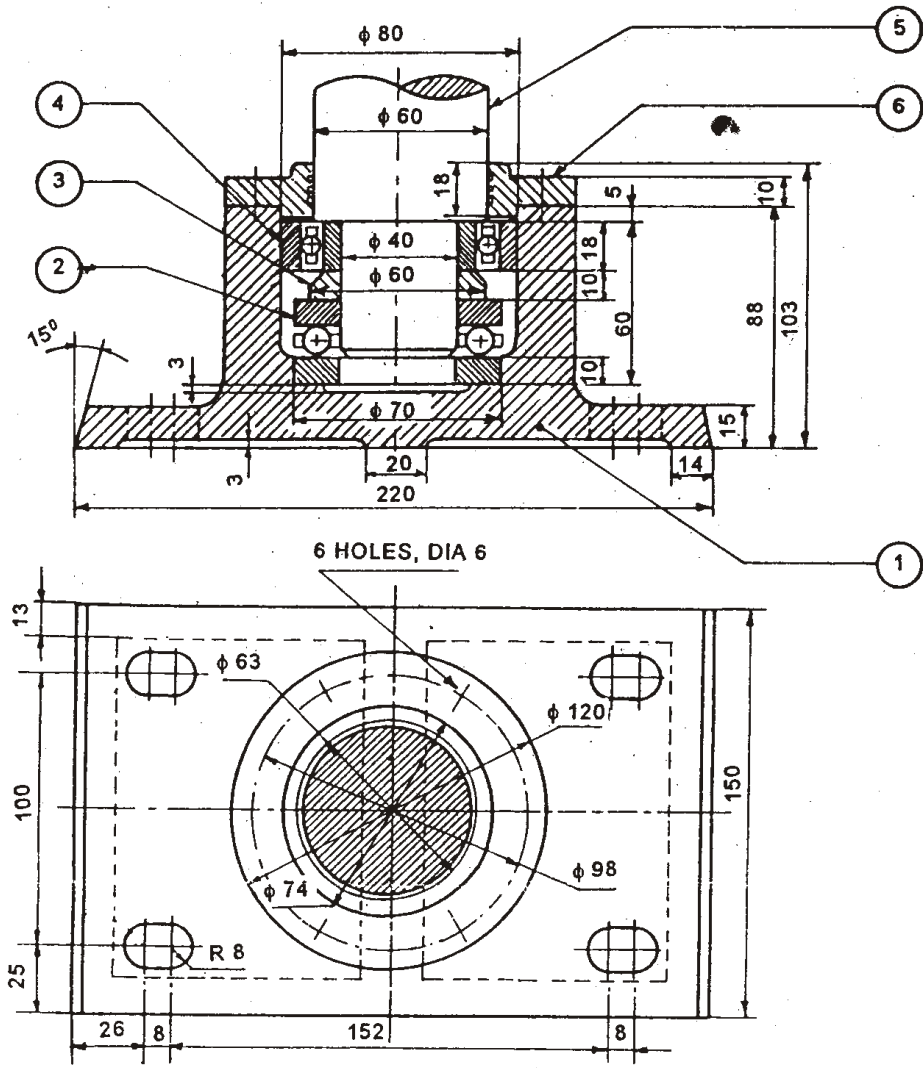
6. Study the given assembly drawing (Page 4) of footstep bearing :
20+5+5+5+5=40

- (a) Draw the component drawings.
- (b) Indicate dimensional tolerances and fits on important mating parts.
- (c) Indicate the geometrical tolerances wherever needed.
- (d) Indicate the recommended surface roughness values on all parts.
- (e) Prepare the process sheet for cover.



Bill of Materials

Part No.	Name	Raw Material	Qty.
1	Pillar	MCS—Forging	1
2	Block	MCS—Forging	1
3	Ring	MS—Forging	1
4	Wedge	MCS—Forging	1
5	Screw	MCS— 32 Bar stock	1



Bill of Materials

Part No.	Name	Raw Material	Qty.
1	Base	CI—Casting	1
2	Thrust ball bearing	Std. Component	1
3	Spacer	CI—Casting	1
4	Radial ball bearing	Std. Component	1
5	Shaft	MS— 63	1
6	Cover	CI—Casting	1
