



C16-M-406

6451

BOARD DIPLOMA EXAMINATION, (C-16)  
SEPTEMBER/OCTOBER - 2020  
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 shaft and a hole are given below :

Shaft 50  $\begin{matrix} 0\ 002 \\ 0\ 001 \end{matrix}$  Hole 50  $\begin{matrix} 0\ 0012 \\ 0\ 0010 \end{matrix}$

Find out the maximum allowance and hole tolerance.  $2\frac{1}{2}+2\frac{1}{2}=5$

2. Draw the symbolic representation for the following geometrical characteristics to be toleranced :

5

(a) Straightness

(b) Squareness

(c) Symmetry

(d) Angularity

(e) Cylindricity

\* 3. Indicate the surface roughness limiting values for the following manufacturing processes :

5

(a) Die casting

(b) Forging

(c) Turning and milling

(d) Boring

(e) Reaming

4. Write the meaning for the code designation of the following components :

$2\frac{1}{2}+2\frac{1}{2}=5$

(a) Taper key 15 10 70

(b) Hex bolt M10 40NL

**PART—B**

40

**Instructions** : (1) Answer *any one* question.

(2) Each question carries **forty** marks.

(3) All dimensions are in mm.

(4) Choose suitable scale.

\* 5. Study the given assembly drawing of the knuckle joint and—

(a) draw the component drawings;

(b) apply suitable tolerances and fits;

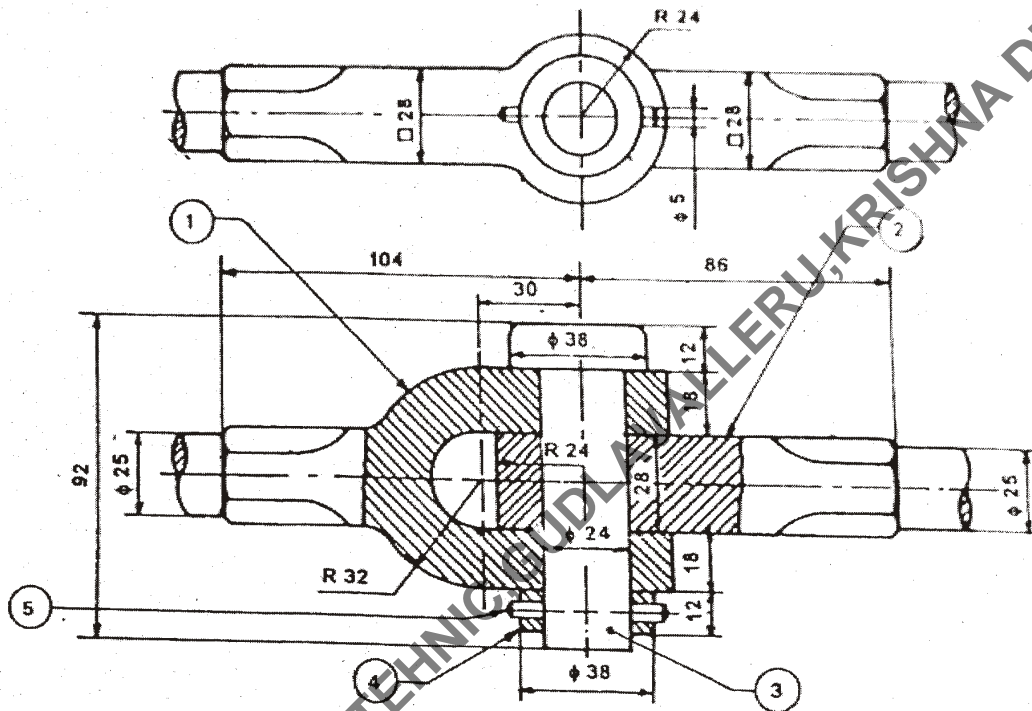
(c) apply suitable geometrical tolerances to components;

(d) show the surface roughness symbols;

(e) list out the materials for the components;

(f) prepare the process sheet for pin.

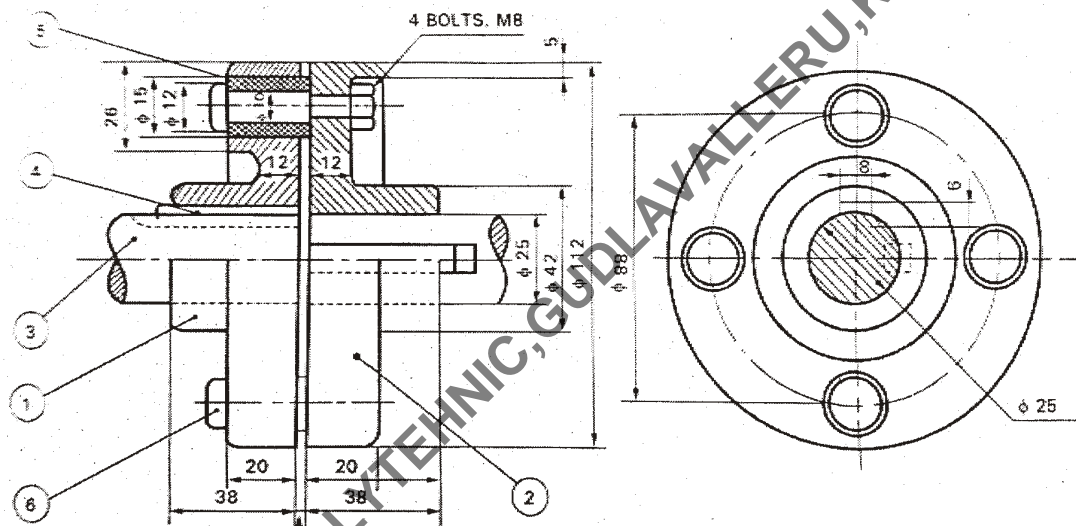
20+5+3+3+4+5=40



Bill of material

| Part No. | Name      | Qty. |
|----------|-----------|------|
| 1.       | Fork end  | 1    |
| 2.       | Eye end   | 1    |
| 3.       | Pin       | 1    |
| 4.       | Collar    | 1    |
| 5.       | Taper pin | 1    |

6. Study the given assembly drawing of the bushed pin-type flanged coupling and—
- draw the component drawings;
  - apply suitable tolerances and fits;
  - apply suitable geometrical tolerances to components;
  - show the surface roughness symbols;
  - list out the materials for the components;
  - prepare the process sheet for flange 2.  $20+5+3+3+4+5=40$



Bill of material

| Part No. | Name          | Qty. |
|----------|---------------|------|
| 1.       | Flange        | 1    |
| 2.       | Flange        | 1    |
| 3.       | Shaft         | 2    |
| 4.       | Key           | 2    |
| 5.       | Rubber bushes | —    |
| 6.       | Bolt          | 4    |

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