



C16-M-406

6451

BOARD DIPLOMA EXAMINATION, (C-16)

OCTOBER/NOVEMBER—2023

DME – FOURTH SEMESTER EXAMINATION

PRODUCTION DRAWING

Time : 3 Hours]

[Total Marks : 60

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **five** marks.
(3) Draw the following neatly with proportionate dimensions.
(4) Use of production drawing tables (Tolerance tables) is allowed.

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

Shaft $50_{-0.001}^{+0.002}$, Hole $50_{-0.0010}^{+0.0012}$

Calculate (a) shaft tolerance and (b) hole tolerance.

2. Draw the tolerance characteristic symbol for the following :

- (a) Symmetry
(b) Circularity
(c) Profile of any line
(d) Flatness
(e) Parallelism

3. Mention the roughness grade symbol for the following roughness values :

- (a) 12.5 μm
(b) 50 μm
(c) 1.6 μm
(d) 0.1 μm
(e) 0.05 μm

4. Write the meaning of following symbols/specifications :
- | | |
|---|---|
| (a) Fe 470 W | 2 |
| (b) Hexagonal bolt M 20 × 1.0 × 100 – IS : 1364–S–4.6 | 2 |
| (c) Snap head rivet 6 × 25, IS : 2155 | 1 |

PART—B

40×1=40

- Instructions :** (1) Answer *any one* question.
(2) Each question carries **forty** marks.
(3) Assume suitable missing data if required.

5. Study the given assembly drawing of the Knuckle joint shown in Fig. 1.
- | | |
|---|----|
| (a) Draw the part drawings 'Fork end', 'Eye end' and 'PIN'. | 20 |
| (b) Select suitable fits and tolerances. | 5 |
| (c) Prepare the process sheet for 'PIN'. | 5 |
| (d) Indicate the surface roughness symbols and geometrical tolerance symbols. | 6 |
| (e) Name the materials of the components. | 4 |

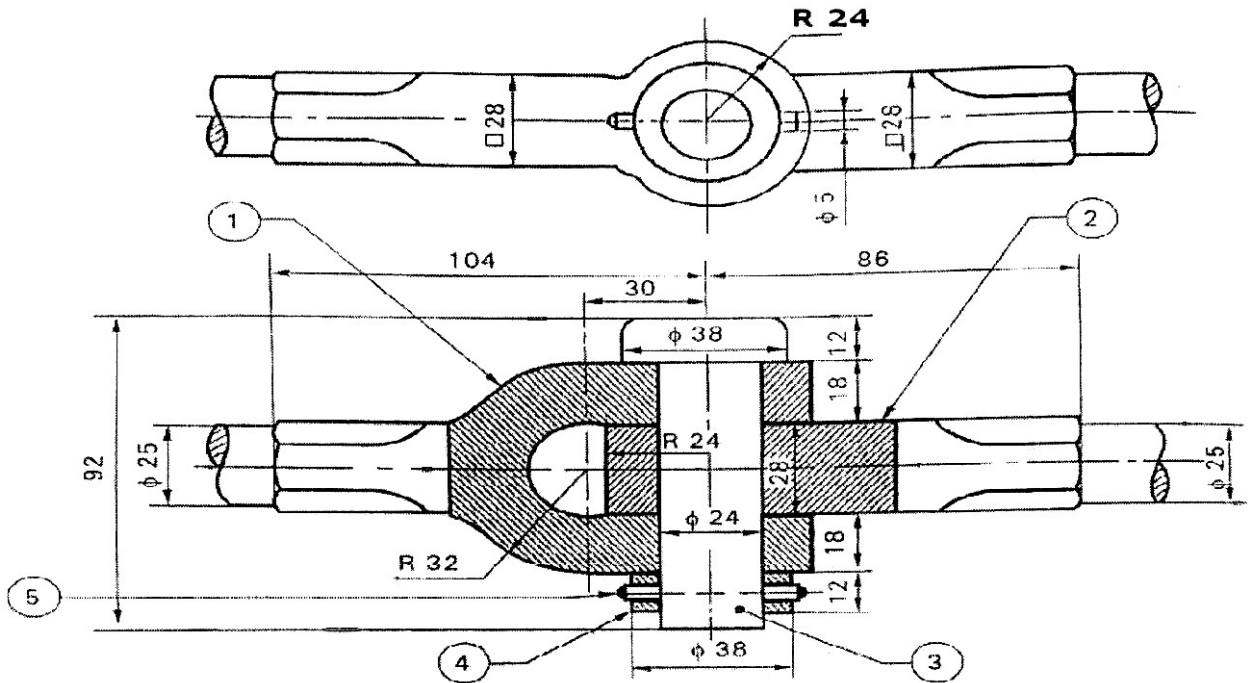
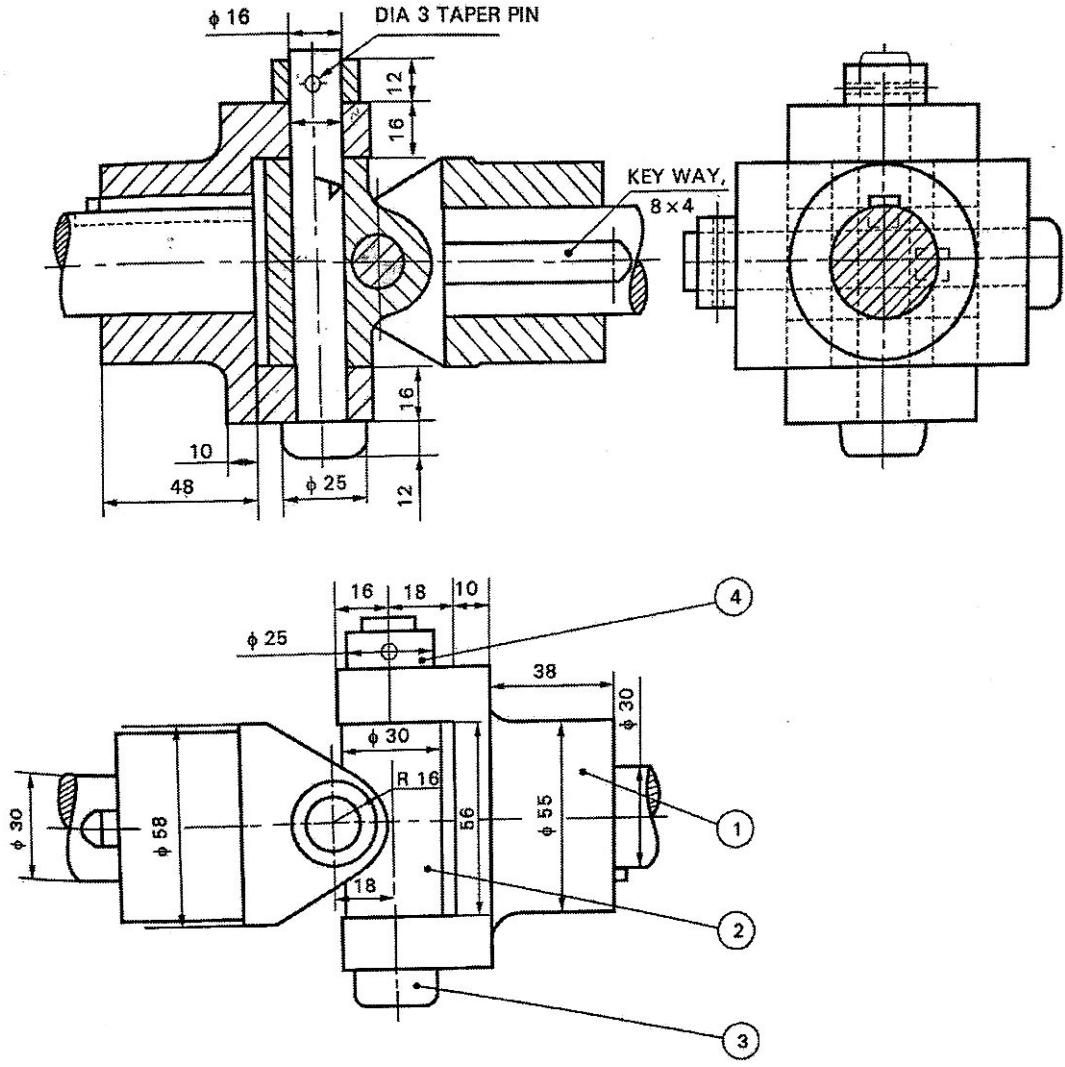


FIG : 1

BILL OF MATERIALS:

PART NO.	NAME	QUANTITY
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 'Universal coupling' shown in Fig. 2.
- (a) Draw the part drawings of the components. 20
 - (b) Select suitable fits and tolerances. 5
 - (c) Prepare the process sheet for 'Centre block'. 5
 - (d) Indicate the surface roughness symbols and geometrical tolerance symbols. 6
 - (e) Name the materials of the components. 4



PART NO.	NAME	QUANTITY
1	FORK	2
2	Centre block	1
3	PIN	2
4	COLLAR	2

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