



C09-M-407

3507

**BOARD DIPLOMA EXAMINATION, (C-09)**  
**MARCH/APRIL—2017**  
**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.  
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

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

$$\begin{array}{ll} + 0.010 & - 0.020 \\ - 0.003 & - 0.001 \end{array}$$

Hole : 70

Shaft : 70

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) Profile of any line  
(b) Flatness  
(c) Position  
(d) Symmetry  
(e) Roundness

\* **3.** Give the range of roughness values in microns obtained in the following manufacturing process :

(a) Permanent mould casting

(b) Shaping

(c) Boring

(d) Lapping

(e) Reaming

**4.** Write the meaning of following designations of mechanical components :

(a) Hex bolt  $M20 \times 1.5 \times 75NN$

(b) Ball bearing 410

(c) Spline shaft  $32 \times 28 \times 6$

(d) Solid taper pin  $15 \times 60$

(e) O-ring 15/3, Teflon

#### **PART—B**

40

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

(2) Priority should be given to the accuracy, neatness and dimensioning.

(3) Standard components need not be drawn as part drawings.

\* **5.** Study the given assembly drawing of eccentric : 20+5+5+5+5

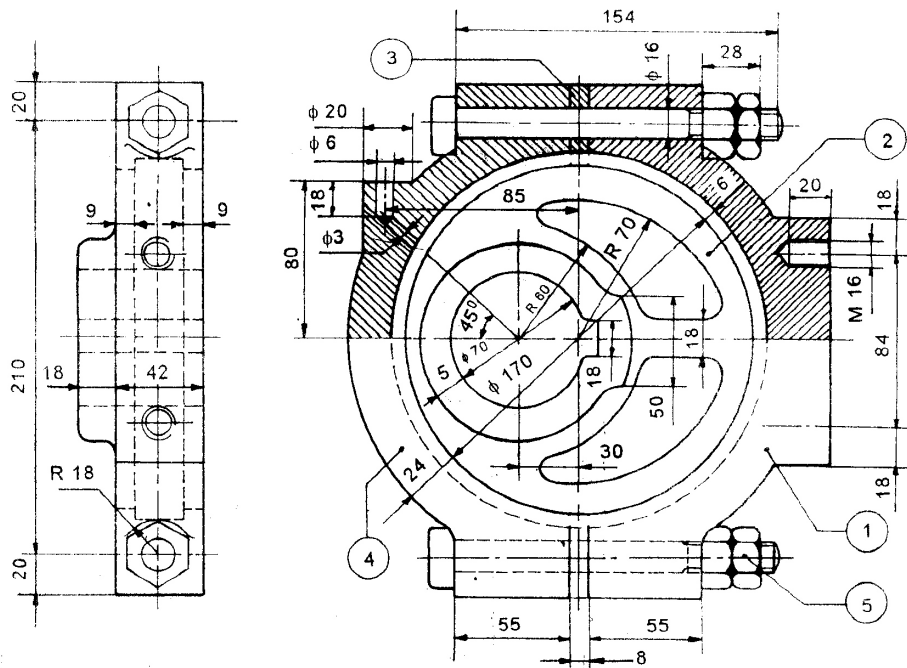
(a) Draw the component drawings.

(b) Indicate dimensional tolerances and fits on important mating parts.

(c) Indicate the geometrical tolerances wherever needed.

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- (d) Indicate the recommended surface roughness values on all parts.
- (e) Prepare the process sheet for strap.



Bill of material

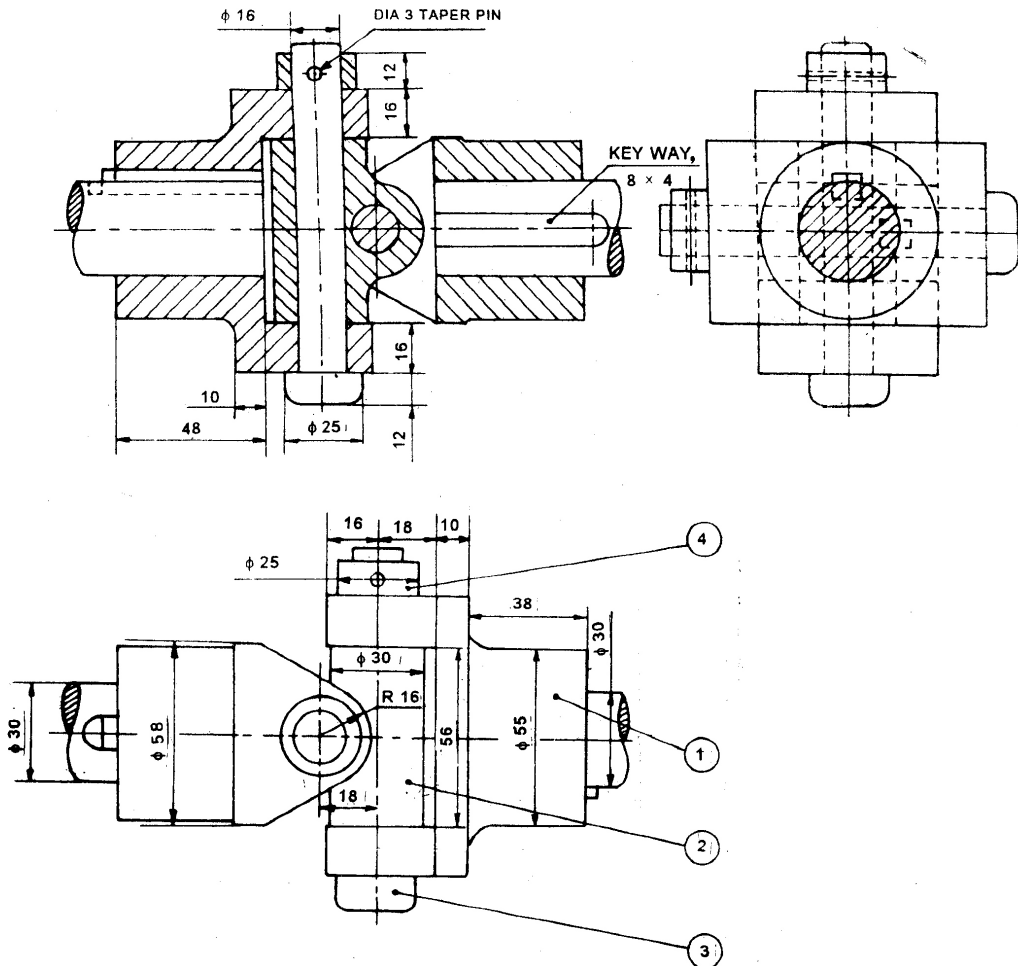
Part No.	Name	Raw material	Qty.
1.	Strap	C.I - Casting	1
2.	Sheave	C.I - Casting	1
3.	Shim	Brass - Strips	2
4.	Strap	C.I - Casting	1
5.	Bolt with nut	M.S - Std. Components	2

6. Study the given assembly drawing of universal coupling :

20+5+5+5+5

- (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 Centre block.



Bill of material

Part No.	Name	Raw material	Qty.
1.	Fork	MCS - Forging	2
2.	Centre block	C.I - Casting	1
3.	Pin	CRS - $\phi 25$ Bar stock	2
4.	Coller	MS - $\phi 25$ Bar stock	2

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