

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL -2020.

PRODUCTION DRAWING

(Maximum Marks : 75)

[Time : 2.15 hours]

(Note: BIS tables and charts are permitted. Sketches accompanied)

PART-A

(Maximum marks: 10)

Marks

I. Answer **two** questions in one or two sentences. Each question carries 5 marks.

1. Sketch and define three types of fit in hole basis system.
2. Draw the surface texture symbol with all surface texture characteristics.
3. Determine the values of following tolerance from table.
(a) $\varnothing 30\text{mm H8 f7}$ (b) $\varnothing 65\text{mm H7 js6}$
4. List out any five types of process charts.

(2x5=10)

PART - B

(Maximum Marks : 15)

II Answer **any one** of the following questions . Each question carries 15marks.

1. Explain systems of tolerances and neat sketches in hole basis and shaft basis of the bilateral systems of tolerance.
2. A full sectional view of a Gun metal bush which is light pressing fit in a Cast Iron housing is shown in **Figure-I**. Draw the bush and indicate dimensions using symbols for tolerance.
3. Two views of a slotted nut are shown **figure-2**. The following dimensions may be Taken $d_1 = \varnothing 25$, $d_2 = \varnothing 36.6$, $d_3 = \varnothing 36$ and $h = 12$. The nut is to be manufactured to the following geometrical tolerances.
(a) End faces of the nut are parallel with a geometrical tolerance of 0.02mm.
(b) The datum axis of the nut to which the tolerance frame is connected, should be contained in a cylindrical zone of diameter 0.2mm coaxial with the datum.

[1x15 =15]

PART - C
(Maximum marks : 50)

(Answer **any one** of the following questions)

- III 1.** An assembly drawing of the crank shown **figure-3**. Prepare a shop floor drawing for the production incorporating the following information.
- (a) Crank shaft end is assembled in the crank with light keying fit.
 - (b) Crank pin is push fit in the crank.
 - (c) Crank pin is with normal running fit in the big end of the connecting rod.
 - (d) A parallelism tolerance of $30\mu\text{m}$ is allowed between the axis of the pin and the axis of the shaft.
 - (e) Prepare the item list.

OR

- 2.** Sectional elevation of a sleeve is shown **figure-4**. The surfaces to be tolerance Symbolically are represented by 1,2,3 and 4. Prepare a shop floor drawing incorporating the following requirements.
- (a) Surface 1 should not have a radial run out greater than 0.008 mm with respect to the axis of the sleeve. The surface should be contained between to parallel planes 0.008 mm apart.
 - (b) Surfaces 1 and 2 should be parallel to each other with a parallelism tolerance of 0.004mm.
 - (c). Surface 3 should have a geometrical circularity and cylindricity tolerances within 0.003 mm each.
 - (d) Surface 4 has a radial run out limited to 0.008 mm with respect to the axis, Circularity tolerance limited to 0.003 mm and a cylindrical tolerance of 0.003mm.

FIGURE -1

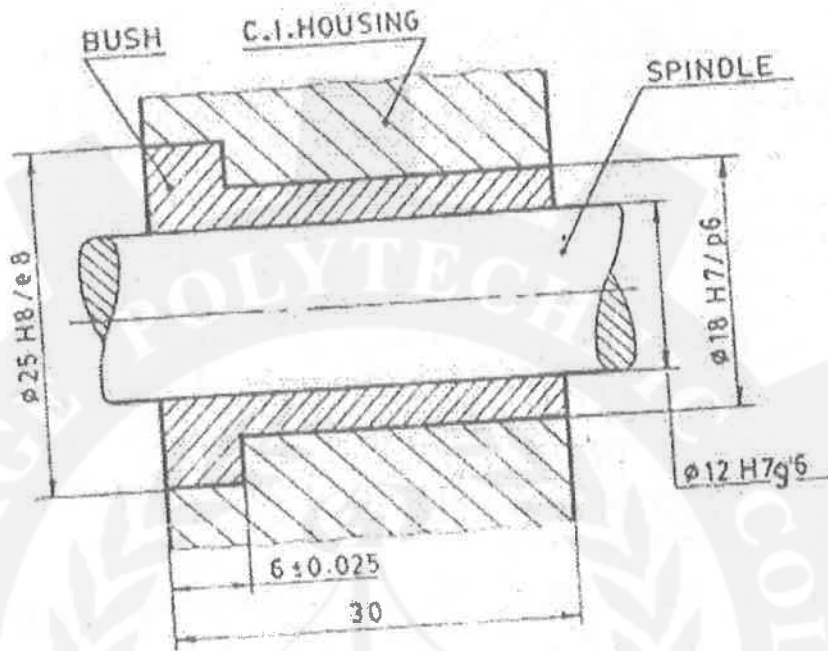


FIGURE- 2

