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| Total No. of Questions : 5] |  |
|  | UN-REVISED |


[ Total No. of Printed Pages : 8
Code No. : 72

## General Instructions to the Candidate :

1. This Question Paper consists of 5 objective and subjective types of questions.
2. This question paper has been sealed by reverse jacket. You have to cut on the right side to open the paper at the time of commencement of the examination. Check whether all the pages of the question paper are intact.
3. Follow the instructions given against both the objective and subjective types of questions.
4. Figures in the right hand margin indicate maximum marks.
5. The maximum time to answer the paper is given at the top of the question paper. It includes 15 minutes for reading the question paper.

Instructions : i) Answer all the questions.
ii) Retain the constructional details.
iii) All dimensions are in mm.
iv) Use first angle projection only.
v) Missing dimensions may be assumed.
vi) All drawings should be drawn in drawing sheet only.

1. a) Fill in the blanks with the correct figure/word(s) by selecting from the choices given in the brackets : $\quad 5 \times 1=5$
i) The inclination of letters as for inclined lettering as recommended by B.I.S. is $\qquad$
ii) The dimension figure for radius of a circle should preceded by $\qquad$
iii) The full form of R.F. is $\qquad$ .
( reducing factor, representative fraction, rational factor)
iv) Elliptical curves find their use is $\qquad$ .
( design of water channels, reflecting telescopes, concrete arches )
v) For orthographic projections B.I.S. recommends the $\qquad$ .
( first angle projection, second angle projection, third angle projection )
b) Match the following :

## Group A

## Group B

i) Crest
a) the surface between creast and root
ii) Root
b) the distance between creast and root
iii) Flank
c) the distance measured parallel to the axis
iv) Depth
d) innermost portion of a thread
v) Pitch
e) equal to half the lead
f) outermost part of a thread.

RR(B)-20006
2. a) Print the following in single stroke vertical capital letters of height 18 mm with $6: 5$ ratio.

## 'HYPERBOLA'

b) Construct a scale of $1: 5$ to show decimetres and centimetres and long enough to measure up to 0.5 metre.
3. a) Inscribe a parabola in a parallelogram of $110 \mathrm{~mm} \times 80 \mathrm{~mm}$ sides, the included angle being $60^{\circ}$. 5
b) Inscribe the largest possible ellipse in a rectangle with $160 \mathrm{~mm} \times 100 \mathrm{~mm}$ sides. 5
4. a) Differentiate between first angle and third angle projection.
b) The pictorial view of an object is shown in Figure No. 1. Draw the following orthographic views and mark the dimensions :
(i) Front view - Looking in the direction of arrow ' X '
(ii) Top view - Looking in the direction of arrow ' Y '
(iii) Side view - Looking in the direction of arrow ' $Z$ '.


Figure No. 1
5. Figure No. 2 shows the sectional elevation of a cone friction clutch. Draw
the sectional elevation of the cone friction clutch to half full size
(1:2 size ) and mark dimensions.


CONE FRICTION CLUTCH

Figure No. 2

