

Pre Board -1 Examination – December 2019

Roll No.

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Series SSR / 1

Code No. 046/ 1 / 1

- Please check that this question paper contains 4 printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains 7 questions.
- Please write down the serial number of the question before attempting it.

Engineering Graphics

Class : XII
Date : 05-12-2019

Time allowed : 3 hrs.
Max marks : 70

1. Multiple choice questions (5)

- (i) Which key is largely used in machine tools and automobile works?
 - (a) woodruff key
 - (b) feather key
 - (c) rectangular taper key
 - (d) none of these

- (ii) How much is the head diameter of a flat head screw when its diameter is 'd' ?
 - (a) 1.8 d
 - (b) 2d
 - (c) 2.4d
 - (d) 1.4d

- (iii) Which one of the following is a pictorial drawing ?
 - (a) orthographic
 - (b) isometric
 - (c) development
 - (d) auxillary

- (iv) Scale 1:1 is also called
 - (a) Full-size scale
 - (b) Vernier scale
 - (c) Enlarged scale
 - (d) Isometric scale

(v) In isometric projection, all the dimensions are shortened in equal proportions except

- (a) lengthwise dimensions
- (b) heightwise dimensions
- (c) spherical dimensions
- (d) conical dimensions

2. (a) Draw an isometric scale. (4)

(b) Construct an isometric projection of the frustum of a cone, having its axis perpendicular to the H.P. The top diameter = 30 mm and base diameter = 50 mm and height of frustum is 70 mm. Give all dimensions. Draw the axis. (7)

(c) A Hexagonal Pyramid of 30 mm base edge and 60 mm high with two base edges parallel to V.P., is centrally placed on the top face of a Pentagonal Prism of base edge 50 mm and height 40 mm resting on the H.P. having vertical axis with one base edge, in front, parallel to V.P. Draw an isometric projection of the combination of the solids. Draw the common axis and indicate the direction of viewing. Give all the dimensions. (13)

3. (a) Draw to scale 1:1, the standard profile of the metric thread (internal) with the pitch=50mm. Give standard dimensions. (8)

(OR)

Draw to scale 1:1, the front view and side view of a tee headed bolt with diameter M25, keeping its axis parallel to both V.P and H.P. Give standard dimensions.

(b) Sketch free hand the front view and top view of a cheese head screw of diameter 25mm, keeping its axis vertical. Give all standard dimensions. (5)

(OR)

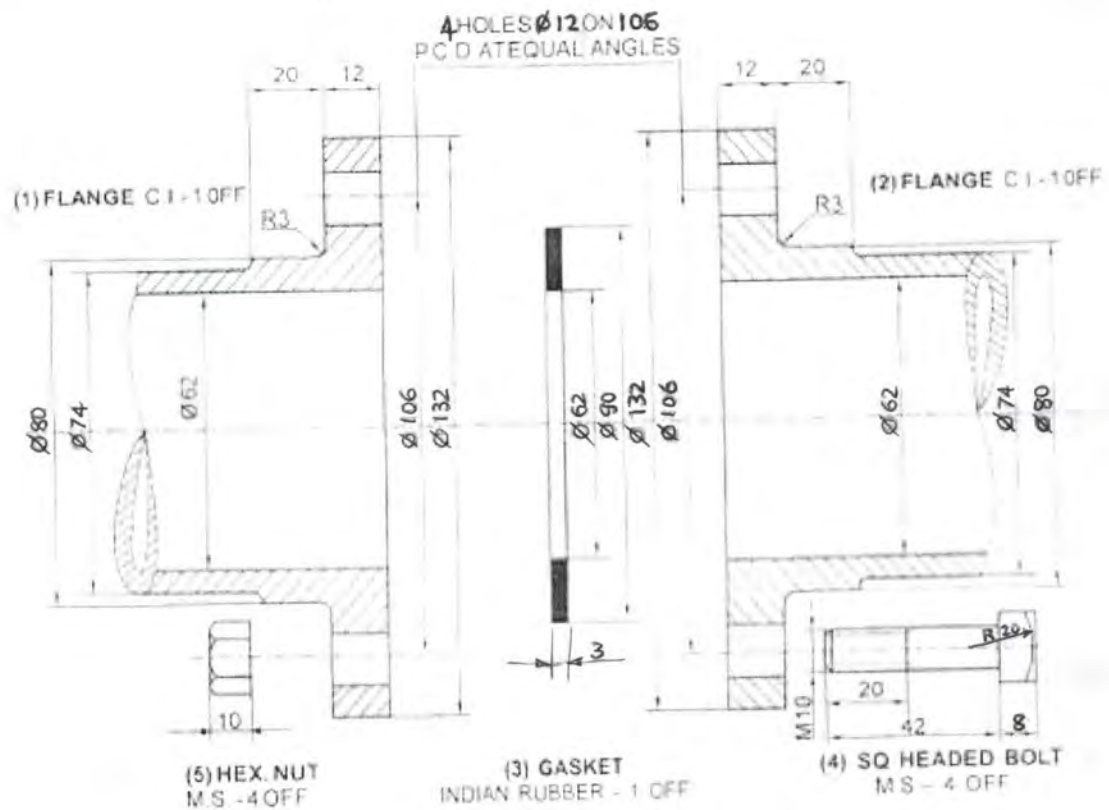
Sketch free hand the front view and top view of a Double head feather key for a shaft of size M20, keeping the axis parallel to both H.P. and V.P. Give all the standard dimensions

4. Figure 1 shows the details of the parts of a **FLANGE PIPE JOINT**. Assemble these parts correctly, and then draw the following views using scale 1:1.

(i) Front view, top half in section. (14)

(ii) Left side view. (8)

Print the title and the scale used. Draw the projection symbol. Give 6 important dimensions. (6)



DETAILS OF A FLANGED PIPE JOINT

(OR)

Figure 2 shows the assembly of a **PROTECTED FLANGE COUPLING**. Disassemble the parts and then draw the following views of the following components to scale 1:1, keeping their position same with respect to H.P. and V.P.

(i) FLANGE B

a) Front view, upper half in section. (8)

b) Left side view. (8)

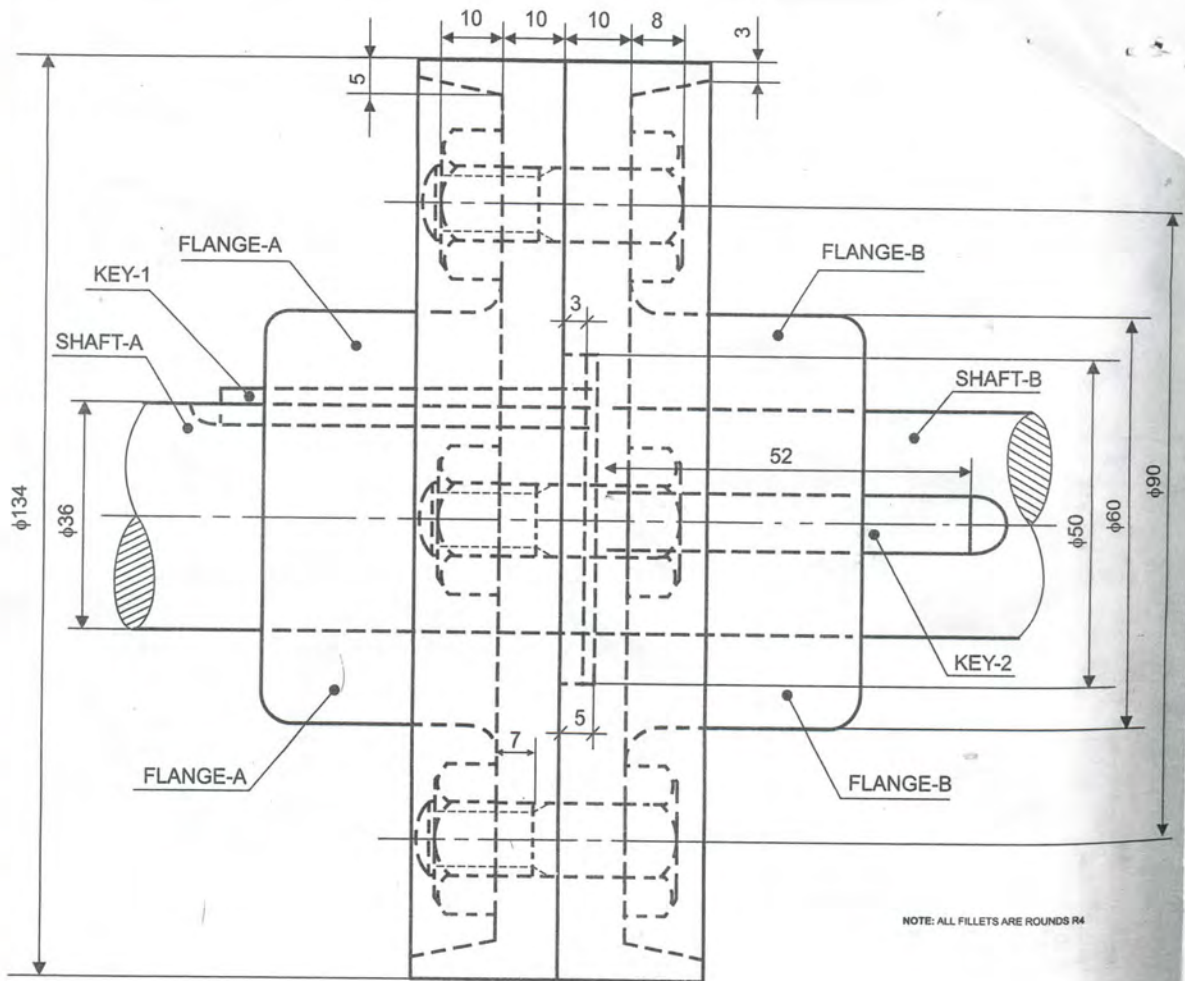
(ii) RECTANGULAR SUNK TAPER KEY

a) Front view (3)

a) Top view. (3)

Print the title and the scale used. Draw the projection symbol.

Give 6 important dimensions. (6)



A PROTECTED FLANGE COUPLING

