

Printed Pages – 6

Roll No. :

337352(37)

B. E. (Third Semester) Examination, Nov.-Dec. 2021

(New Scheme)

(Mechanical Engg. Branch)

MACHINE DRAWING

Time Allowed : Four hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all the questions. Part (a) of each question is compulsory. In Q.1 and Q.2, attempt any two from (b), (c) and (d). In Q.3 and Q.4 attempt any one from (b) and (c). Assume suitable data if found missing or needed and mention it clearly at the respective place(s).

Unit-I

1. (a) Draw the respective representation diagrams to distinguish between 'single start' thread and 'multiple starts' thread.

2

337352(37)

PTO

[2]

- (b) Differentiate between the following and give their respective representation drawings : 7
- (i) Diamond and Straight Knurling
 - (ii) External and Internal Threads
- (c) How can you differentiate between the following with the help of their respective representation drawing? 7
- (i) Circularity and Cylindricity
 - (ii) Flatness and Straightness
- (d) Explain the different terminologies included in the symbol of surface texture. Also draw the symbol for a surface texture of a flat surface which is to be machined by milling process with machining allowance of 1.5 mm and surface lay perpendicular to plane of projection of the view of the surface. 7

Unit-II

2. (a) Mention the basic purpose of *Broken Section* and *Half Section* in the sectional views. 2
- (b) Explain Hatching, its types and its purpose in machine

337352(37)

[3]

- drawing. If three or more surfaces of an object made of single material are sectioned, then how are these shown in the drawing by means of hatching? Explain with examples. 7
- (c) Draw the following views of an object (which is shown in figure no. 1) using 1st angle projection method :
- (i) Full Sectional Front View along A-B
 - (ii) Top view
 - (iii) Right side View 7

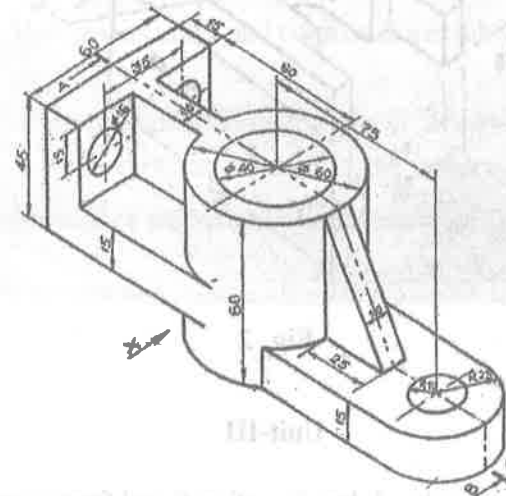


Fig. 1

337352(37)

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[4]

(d) Draw following views of an object shown in figure no. 2 using 3rd angle projection method :

(i) Sectional front view

(ii) Top view

(iii) Left side view

7

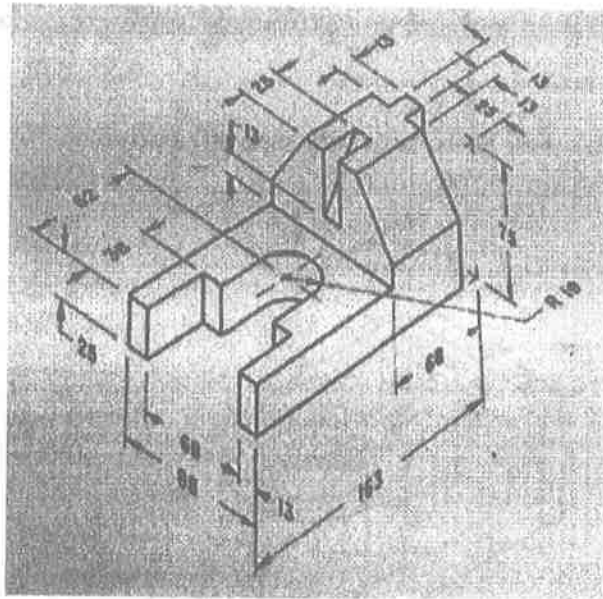


Fig. 2

Unit-III

3. (a) Draw free hand drawing of sectional front view and top view for a single riveted single strap lap.

2

[5]

(b) Draw the three views of a square headed bolt of size M30. The length of the bolt is 90 mm and thread length is 64 mm.

14

(c) Draw the three views of an assembly of hexagonal headed bolt with hexagonal nut. Diameter and length of the bolt are 24 mm and 100 mm respectively. Axis of the bolt is parallel to both HP and VP.

Assume suitable thread length.

14

Unit-IV

4. (a) What is *Bill of Materials* in assembly drawings? Also give its utility and purpose in assembly drawings.

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(b) Draw sectional front views, Top view and Left side view assembly drawings from the following detailed drawing of sleeve and cotter joint (Figure no. 3).

27

[6]

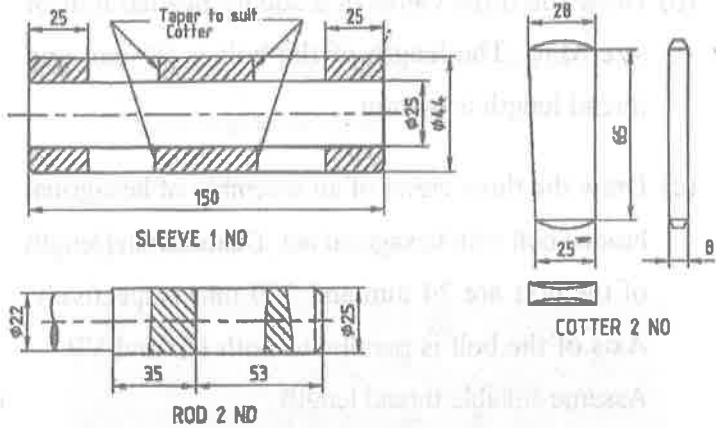


Fig. 3

(c) Draw upper half sectional front view and side view assembly drawings from the following detailed drawing of Protected Flanged Coupling (Figure no. 4). 27

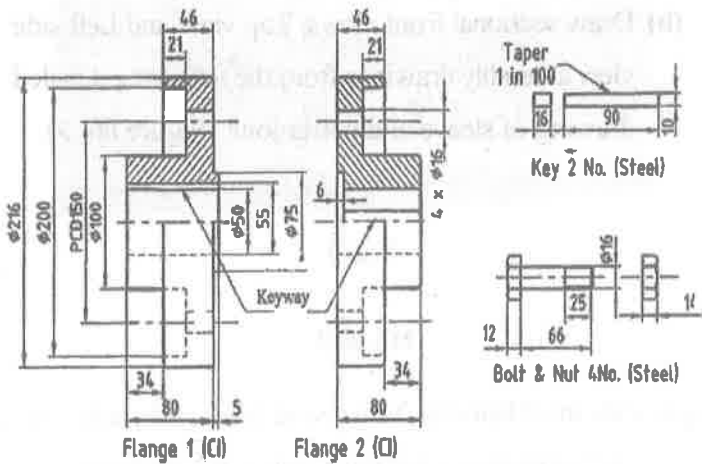


Fig. 4