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B.Tech. – VIEP – MECHANICAL ENGINEERING (BTMEVI)

Term-End Examination

December, 2015

BIME-003 : MACHINE DRAWING

Time : 3 hours   *Maximum Marks : 70*

Note : *Answer **all** questions. Assume any missing data suitably, if required.*

1. Attempt any *four* of the following questions :   *4×5=20*

    (a)   What is a rivetted joint ? Classify the rivetted joints and explain any one of the rivetted joints with the help of a neat sketch.

    (b)   What is the function of keys ? Explain various types of keys with neat sketches.

    (c)   Draw the front view, top view and side view of a hexagonal prism with 40 mm side and 200 mm height. Assume one face of the prism is parallel to the vertical plane.

    (d)   Explain First Angle Projection and Third Angle Projection with the help of neat sketches.

    (e)   What are foundation bolts ? Explain with a neat sketch.

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2. Draw the three views of an 18 mm diameter 70 mm long standard bolt with hexagonal head. The shank has a square neck and half of its length is threaded. Take the pitch of the thread as 2 mm. *18*

OR

A flange of 500 mm dia and 50 mm thickness with 150 mm hub is connected to a shaft of 200 mm dia through a round key of 50 mm dia. Draw the elevation with upper half in section and side view full in section. *18*

3. Figure 1 shows three components of a cotter joint. Assemble and draw the elevation with upper quarter (front) in section and side view full (choose 1/2 scale). *18*
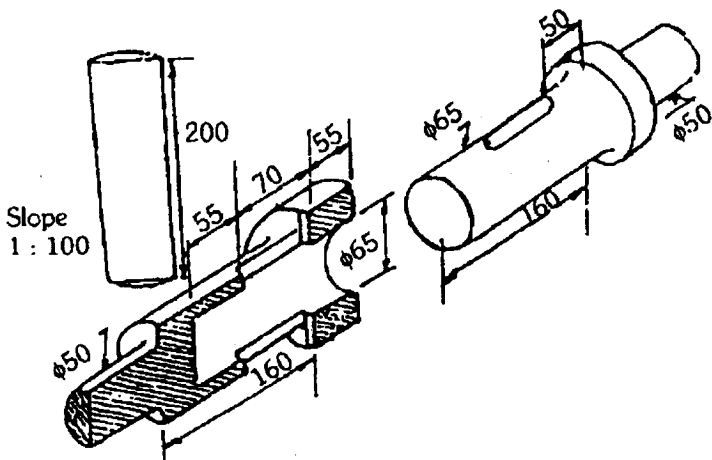

Figure 1

OR

Draw the plan and elevation of a double rivetted double cover joint with the following specifications : *18*

Plate thickness	: 22 mm
Cover plate thickness	: 18·5 mm
Zig-zag rivetting with pitch	: 140 mm
Back pitch	: 65 mm
Margin	: 43 mm
Rivet hole dia	: 28 mm
Rivet dia	: 27 mm

4. Write short notes on any *two* of the following : *2×7=14*

   (a) Lathe Tail Stock

   (b) Safety Valve

   (c) Helical Gear

   (d) Surface Modelling

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