

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

00813

Term-End Examination

June, 2018

BIME-003 : MACHINE DRAWING

Time : 3 hours

Maximum Marks : 70

Note : *Question no. 7 is compulsory. Attempt any three questions from the remaining questions. Use of scientific calculator is permitted.*

1. (a) Describe different types of sectional views. Explain each one of them with a suitable example.
- (b) Develop half-sectional view of the upright hollow circular cone of height 1 cm with 3 cm and 4 cm as internal and external diameters respectively. 6+8
2. (a) Draw two views of a feather key or a Taper key.
- (b) Draw two views of a knuckle joint to join two shafts of 25 cm diameter each. 4+10

3. (a) Describe the ways in which a riveted joint may fail. What steps are taken to prevent failures ? Illustrate your answer with suitable sketches.
- (b) Sketch the sectional view from the front and view from the side of a muff coupling. 6+8
4. (a) What do you understand by the following :
- (i) Scale = 5 : 1
- (ii) Scale = 1 : 100
- (b) Sketch the conventional representation of the following : 4+10
- (i) External threads
- (ii) Internal threads
- (iii) Bearing
- (iv) Compression spring
5. (a) With neat sketch, differentiate between lap joint and butt joint.
- (b) Through sketches, illustrate the caulking and fullering operations. 5+9
6. (a) A hexagon is to be drawn using AutoCAD with its sides vertical. The length of a side is 15 mm. Write down the commands to complete the task.
- (b) Draw the nomenclature of a spur gear and specify its various parameters. 7+7

7. Figure 1 shows three components of a cotter joint. Assemble and draw the elevation with upper cotter (front) in section, top view, and side view (full). Choose the scale suitably. Make a part list and bill of materials.

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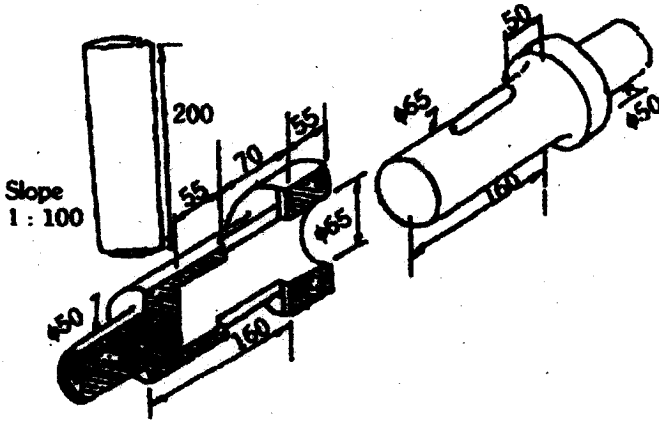


Figure 1