

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B.Tech. Winter 2022 - 23 Examination**

**Semester: 3****Subject Code: 203142206****Subject Name: Elements of Machine Drawing****Date: 15/10/2022****Time: 2.00 pm to 4.30 pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Objective Type Questions - (Fill in the blanks, one word answer, MCQ) (All are compulsory) (15)**  
**(Each of one mark)**

1. \_\_\_\_\_ is used to communicate information to industry.  
(a) design data (b) installation drawing  
(c) machine drawing (d) patent drawing
2. The size of title block for all sizes of drawing sheets is \_\_\_\_ mm × \_\_\_\_ mm.  
(a) 185 × 65 (b) 190 × 65  
(c) 65 × 65 (d) 65 × 185
3. In orthographic projections, the rays are assumed to  
(a) diverge from station point (b) converge from station point  
(c) be parallel (d) None of these
4. When an object is cut by a section plane parallel to H.P and perpendicular to V.P, then the sectional view of the object is obtained in  
(a) Top view (b) Front view  
(c) Left side view (d) Right side view
5. The dimension figure for radius of a circle should be preceded by  
(a) R (b) CR  
(c) SR (d) RAD
6. The dimension figure for diameter of a circle should be preceded by \_\_\_\_\_.
7. The product of diametral pitch P and circular pitch p is equal to \_\_\_\_\_.
8. Hidden lines are drawn as continuous lines. (True/ False)
9. The size of the letter is described by its \_\_\_\_\_.
10. If module is m, then what is the value of dedendum in 20° full depth involute system?
11. In first angle projection method, the object comes between the \_\_\_\_\_ and \_\_\_\_\_.
12. The portion of the gear tooth between the pitch circle and outer circle is called as \_\_\_\_\_.
13. In orthographic projection, each of three axes makes an angle of 120° with other two. (True/ False)
14. Which type of gears are used When the axes of two shafts are parallel?
15. The profile of a gear teeth is in the form of \_\_\_\_\_.

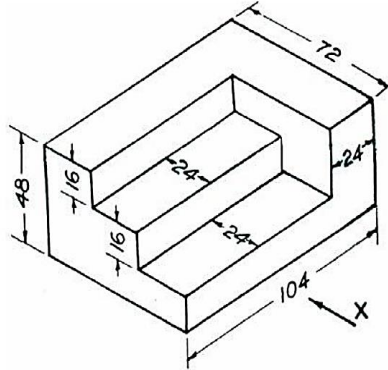
**Q.2 Answer the following questions. (Attempt any three)**

(15)

- A) Differentiate clearly production drawing and installation drawing.
- B) Justified that second and fourth quadrants are not used in practice.
- C) Explain the sketching in detail.
- D) Differentiate between first and third angle projection system.

**Q.3 A)** Explain the types of assembly drawings in detail. (07)

**B)** By using the first angle projection method draw (i) Front view (ii) Side view from the left (iii) Top view of the below object. (08)



**OR**

**B)** Write down the procedure for drawing the base circles for two mating gears of different pitch circle diameters, assuming the pressure angle to be  $\Theta$ . (08)

**Q.4 A)** Explain the types of Fit in detail. (07)

**OR**

**A)** State and prove the Law of Gearing with neat sketch. (07)

**B)** Define the following terms used in connection with a screw thread: (i) Core diameter (ii) outside diameter (iii) Crest (iv) Flank (v) Depth (vi) Pitch. Show each on a sketch of the threaded end of a screw. (08)