



# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

**School of Manufacturing skills**  
**Session: 2020-21 (Winter Semester)**  
**B. Voc. Program, 3<sup>rd</sup> Semester,**  
**Makeup Examination**

**Course Code: GEN1305**

**Time: 3 Hours**

**Course Name: Elementary Drawing**

**Max. Marks: 100**

**Instruction:**

1. Attempt all questions.
2. Use of Calculators is Prohibited.
3. Section A contains 20 Questions. Each question carries 1 Mark.
4. Section B contains 06 Questions. Each question carries 5 Marks.
5. Section C contains 05 Questions. Each question carries 10 Marks.

**Section – A**

20X01 = 20 Marks

1. Which component of micrometer do we rotate in order to take the reading?
  - a) Thimble
  - b) Ratchet
  - c) Frame
  - d) auxiliary scale
2. Standard size of drawing sheet as per BIS for A3 sheet?
  - a) 841mm X 1189mm
  - b) 549mm X 841mm
  - c) 420mm X 594mm
  - d) 297mm X 420mm
3. Which measuring instrument is required to measure internal diameter with .005 tolerances?
  - a) Vernier caliper
  - b) hole test micrometer
  - c) ring gauge
  - d) micrometer
4. Distance from the observer to the object is finite and the object is viewed from single point, is a characteristic of which view?
  - a) parallel view
  - b) prospective view
  - c) both (a) and (b)
  - d) none of the above
5. What is a purpose of hatching?
  - a) to show the presence of a material
  - b) to show the hollow areas
  - c) none of the above
  - d) both (a) and (b)


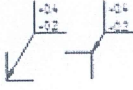



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6. Which component of Vernier caliper do we use in order to measure the depth of component?
  - a) Main scale
  - b) Depth scale
  - c) Vernier scale
  - d) Depth rod
7. Which component support the cylindrical workpiece to measure the diameter?
  - a) Anvil
  - b) Frame
  - c) Ratchet
  - d) Auxiliary scale
8. Which line shows the feature of a part if it is not visible?
  - a) Continuous line
  - b) Thick line
  - c) Thin line
  - d) Short dashes line
9. Which line do we use to show the cutting plane line?
  - a) Long chain thin at the end
  - b) Short chain thick at the end
  - c) Long chain thick at the end
  - d) Short chain thin at the end
10. Which line do we use to show the long break line?
  - a) Thick line
  - b) Continues thin with zig-zag line
  - c) Continues thick with zig-zag line
  - d) Thin line
11. What proportion of scale we use to draw a center line?
  - a) 6:2
  - b) 6:1
  - c) 6:3
  - d) 6:4
12. The act of obtaining the image of an object is termed as
  - a) Trace
  - b) Views
  - c) Projection
  - d) None of the above
13. The image obtained by projection is known as
  - a) Trace
  - b) View
  - c) Projection
  - d) None of the above
14. Less realistic but easier to draw is a characteristic of which projection method:
  - a) Parallel projection
  - b) Prospective projection
  - c) Auxiliary projection



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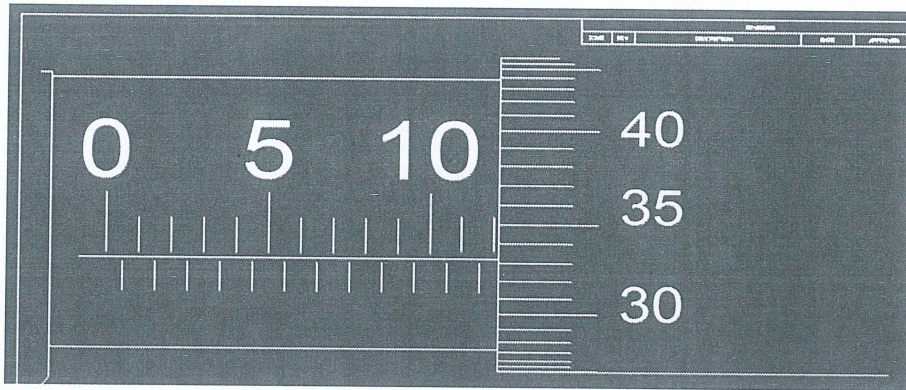
- d) None of the above
15. In the third angle projection method, the object is assumed to be in which quadrant?
- First quadrant
  - Second quadrant
  - Third quadrant
  - fourth quadrant
16. In the first angle projection method, the object is assumed to be in which quadrant?
- Fist quadrant
  - Second quadrant
  - Third quadrant
  - fourth quadrant
17. Standard size of drawing sheet as per BIS for A4 sheet?
- 210x297
  - 220x220
  - 250x297
  - 220x297
18. Why we use this  symbol in drawing
- For surface finishing
  - For general tolerance
  - For general chamfer
  - For no machining
19. Why we use this  symbol in drawing
- For surface finishing
  - For general tolerance
  - For general chamfer
  - For no machining
20. Why we use this  symbol in drawing
- For surface finishing
  - For general tolerance
  - For general chamfer
  - For machining

### Section – B

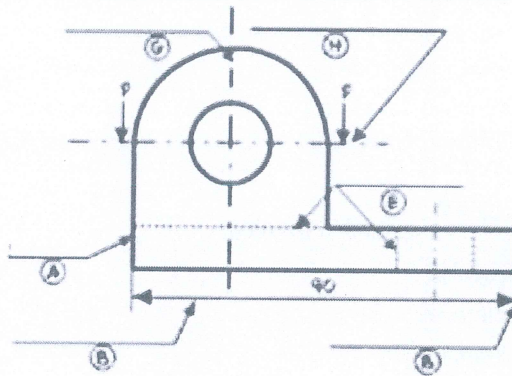
06X05 = 30 Marks

21. Define prospective projection with appropriate diagram.
22. Define parallel projection with appropriate diagram.

23. Identify the reading on the micrometer and draw the diagram.



24. Draw the diagram and name the type of lines.



25. What do you understand by theory of projection?

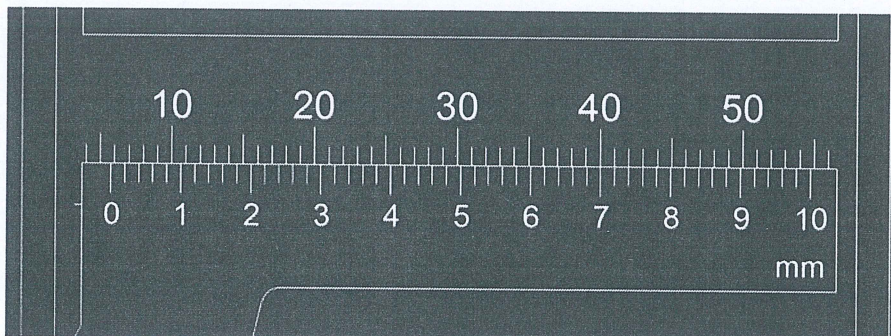
26. What is Vernier caliper? Draw a neat diagram of it.

**Section – C**

05X10 = 50 Marks

27. Define tolerance with an appropriate example.

28. Identify the reading on the Vernier caliper and calculate its least count. And draw its diagram.



29. Write the difference between first angle projection and third angle projection with neat and clean figure.

30. Write down about the different types of line and their application.

31. Explain orthographic projection.



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**Answer Key**

**Section – A**

1. Which component of micrometer do we rotate in order to take the reading?
  - a) **Thimble**
  - b) Ratchet
  - c) Frame
  - d) auxiliary scale
2. Standard size of drawing sheet as per BIS for A3 sheet?
  - a) 841mm X 1189mm
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3. Which measuring instrument is required to measure internal diameter with .005 tolerances?
  - a) Vernier caliper
  - b) **hole test micrometer**
  - c) ring gauge
  - d) micrometer
4. Distance from the observer to the object is finite and the object is viewed from single point, is a characteristic of which view?
  - a) parallel view
  - b) **perspective view**
  - c) both (a) and (b)
  - d) none of the above
5. What is a purpose of hatching?
  - a) **to show the presence of a material**
  - b) to show the hollow areas
  - c) none of the above
  - d) both (a) and (b)
6. Which component of Vernier caliper do we use in order to measure the depth of component?
  - a) Main scale


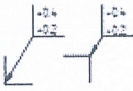



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- b) Depth scale
  - c) Vernier scale
  - d) Depth rod**
7. Which component support the cylindrical workpiece to measure the diameter?
- a) Anvil**
  - b) Frame
  - c) Ratchet
  - d) Auxiliary scale
8. Which line shows the feature of a part if it is not visible?
- a) Continuous line
  - b) Thick line
  - c) Thin line
  - d) Short dashes line**
9. Which line do we use to show the cutting plane line?
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14. Less realistic but easier to draw is a characteristics of which projection method
- Parallel projection**
  - Prospective projection
  - Auxiliary projection
  - None of the above
15. In the third angle projection method, the object is assumed to be in which quadrant
- First quadrant
  - Second quadrant
  - Third quadrant**
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Section – B

03X02 = 06 Marks

21. Define parallel projection?

Ans parallel projection

- Distance from the observer to the object is infinite; Projection lines are parallel and object is positioned at infinity.
- Less realistic but easier to draw.

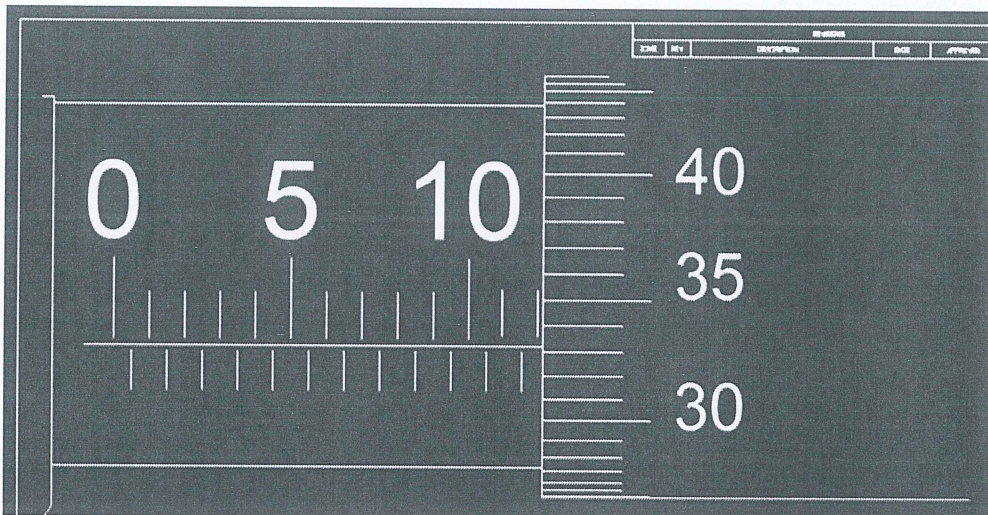
22. Define prospective projection?

Ans prospective projection

- Distance from the observer to the object is finite and the object is viewed from a single point projectors are not parallel.
- Perspective projections mimic what the human eyes see, however, they are difficult to draw.

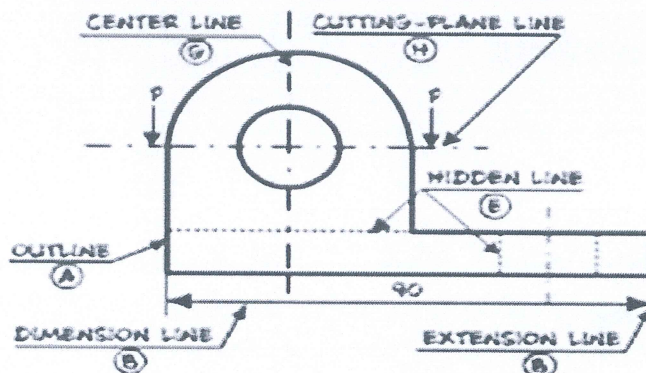
23. Identify the reading on the micrometer

Ans



Reading is 12.33mm

24. Draw the diagram and name the type of lines



25. What do you understand by theory of projection

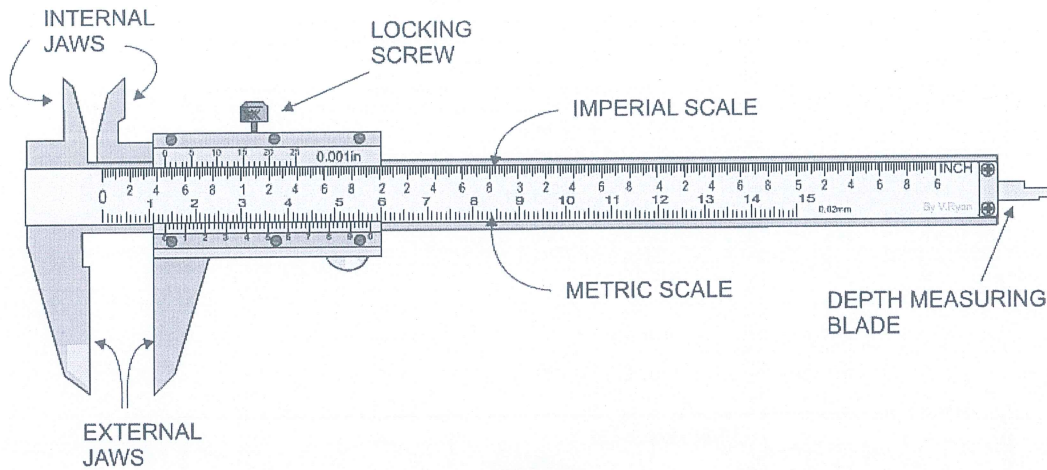


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In engineering, 3-dimensional objects and structures are represented graphically on a 2-dimensional media.

- The act of obtaining the image of an object is termed "projection".
- The image obtained by projection is known as a "view".

26. What is Vernier caliper? Draw a neat diagram of it.



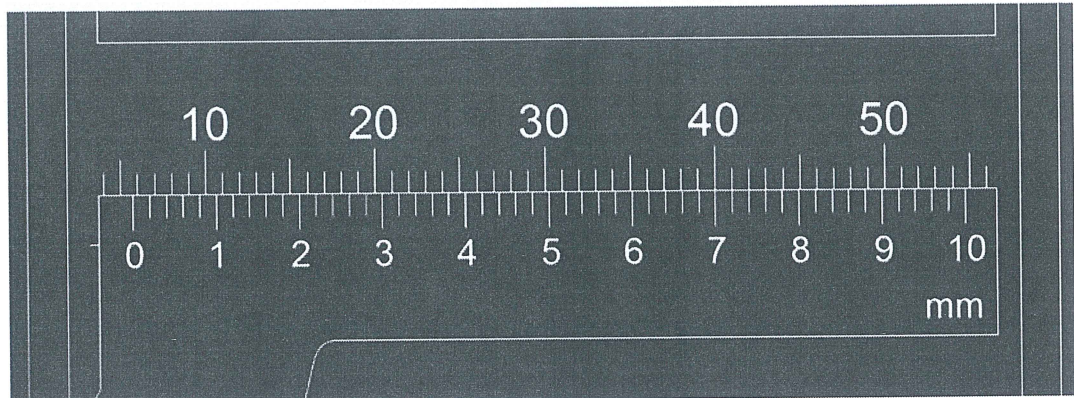
Section - C

03X03 = 09 Marks

27. Define tolerance?

Ans Tolerances is the permissible variation in measurements deriving from the base measurement. Tolerances can apply to many different units. ... But regardless of the unit, a tolerance states an acceptable measurement range from the base point (nominal value)

28. Identify the reading on the vernier caliper and calculate its least count?



Least count

$$\frac{\text{value of one div on main scale}}{\text{total no of div on vernier scale}}$$

$$\frac{1}{50} = 0.02\text{mm}$$

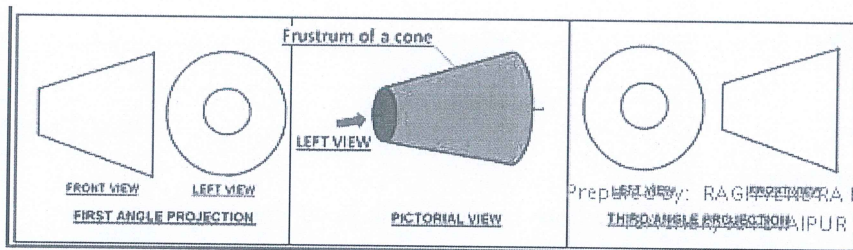
Reading is 1.72mm

29. Write the difference between first angle projection and third angle projection with neat and clean figure.



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First angle projection	Third-angle projection
Object is kept in the first quadrant.	Object is assumed to be kept in the third quadrant.
Object lies between observer and the plane of projection.	Plane of projection lies between the observer and the object.
The plane of projection is assumed to be non-transparent.	The plane of projection is assumed to be transparent.
Front (elevation) view is drawn above the XY line	Front (elevation) view is drawn below the XY line
Top (plan) view is drawn below the XY line	Top (plan) view is drawn above the XY line
Left view is projected on the right plane and vice versa	Left view is projected on the left plane itself.
Followed in India, European countries	Followed in USA



30. Write down about the different types of line and their application

### LINES

- Lines are always used to construct meaningful drawings.
- A line may be curved, straight, continuous, segmented. It may be drawn as thin or thick.

Illustration	Application
Thick —————	Outlines, visible edges, surface boundaries of objects, margin lines
Continuous thin —————	Dimension lines, extension lines, section lines leader or pointer lines, construction lines, boarder lines
Continuous thin wavy ~~~~~	Short break lines or irregular boundary lines – drawn freehand
Continuous thin with zig-zag —————	Long break lines
Short dashes, gap 1, length 3 mm - - - - -	Invisible or interior surfaces
Short dashes - - - - -	Center lines, locus lines Alternate long and short dashes in a proportion of 6:1.
Long chain thick at end and thin elsewhere —————	Cutting plane lines

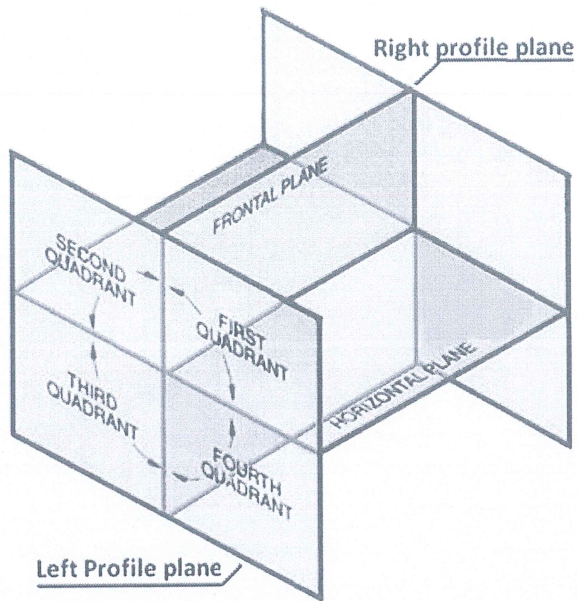
Prepared By: RAJESH KUMAR  
TEACHER, SOPL JAIPUR

31. Explain orthographic projection

Orthographic projection is a **Parallel Projection Technique** in which the plane of projection is perpendicular to the parallel line of sight.



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BS

