Chapter 8 – Introduction to AutoCAD

Part I: Short Questions

Q1. Define AutoCAD?

- AutoCAD is a **computer-aided design (CAD) software** developed by Autodesk.

- Used to create **2D drawings** and **3D models** with accuracy.

Q2. Define Unit Set Command?

- The **UNITS command** is used to set drawing units (Decimal, Engineering, Architectural).

- Controls **precision, angle format, and insertion scale**.

Q3. Define Drawing Commands?

- Drawing commands are used to **create basic objects** in AutoCAD.

- Examples: **LINE, CIRCLE, ARC, RECTANGLE, POLYGON**.

Q4. Enlist some basic commands.

- LINE (L)

- CIRCLE (C)

- ARC (A)

- RECTANGLE (REC)

- TRIM (TR)

- ERASE (E)

- COPY (CO)

- MOVE (M)

Q5. Write 3 features of AutoCAD.

1. Precise 2D drafting and 3D modeling.

2. Layer management system.

3. Library of standard symbols and blocks.

Q6. Define Trim Command & Arc Command.

- **Trim:** Removes unwanted parts of objects (Shortcut = TR).

- **Arc:** Creates an arc using 3 points, start–center–end, or angle.

Q7. Define Fillets & Layers.

- **Fillet:** Rounds the corner between two lines.

- **Layer:** A system to organize objects by **color, linetype, and visibility**.

Q8. Define Line & Circle Command.

- **Line (L):** Draws straight lines between two points.

- **Circle (C):** Draws circles using radius or diameter.

Q9. Write the steps to set Startup Command.

1. Type **STARTUP** in command line.

2. Enter **1** (Enable Startup dialog).

3. Restart AutoCAD → Startup dialog appears.

Q10. Write short keys of OPEN & SAVE command.

- **OPEN:** Ctrl + O

- **SAVE:** Ctrl + S

Q11. What is the purpose of ROTATE command? How can we use this command?

- **Purpose:** To rotate objects around a base point.

- **Use:**

  1. Select object → type **ROTATE**.

  2. Specify base point.

  3. Enter angle of rotation.

Q12. What is the purpose of TRIM command? How can we use it?

- **Purpose:** To cut extra parts of objects.

- **Use:**

  1. Type **TRIM** → press Enter.

  2. Select cutting edge.

  3. Click the part to trim.

✅ **Part II: Long Questions**

Q1. Describe Drawing Commands of AutoCAD.

- **LINE (L):** Draws straight lines.

- **CIRCLE (C):** Creates circles.

- **ARC (A):** Draws arcs.

- **RECTANGLE (REC):** Makes rectangles.

- **POLYGON:** Creates multi-sided shapes.

- **ELLIPSE:** Creates ellipse shapes.

Q2. Describe Startup Command & Unit Set Command.

- **Startup Command:**
    - Activates Startup dialog when AutoCAD is opened.
    - Used to create **New Drawing, Open Existing, or Template-based drawing**.
- **Unit Set Command (UNITS):**
    - Sets unit type (Decimal, Architectural, Engineering).
    - Controls precision and angle measurement.

Q3. Describe Basic Commands.

- **MOVE (M):** Moves objects.
- **COPY (CO):** Duplicates objects.
- **TRIM (TR):** Removes extra parts.
- **EXTEND (EX):** Extends lines to meet another boundary.
- **OFFSET (O):** Creates parallel objects.
- **FILLET (F):** Rounds corners.

Q4. Describe Unit Set Command.

- Command: **UNITS**
- Features:
    1. Sets **length type** (Decimal, Fractional, etc.).
    2. Controls **precision** of values.
    3. Defines **insertion scale** for blocks and drawings.

Q5. Describe Preliminary Adjustments in AutoCAD Drawing File.

1. Set **UNITS** (measurement type).
2. Set **LIMITS** (drawing boundary).
3. Choose **LAYER properties**.
4. Select **LINE types and colors**.
5. Save file before starting major work.

🎇 **Extra Important Questions (for Exam)**

Q1. Difference between Line and Polyline.

- **Line:** Creates separate segments.

- **Polyline:** Creates a connected series of segments (acts as one object).

Q2. Difference between Trim and Extend.

- **Trim:** Cuts extra portion.

- **Extend:** Lengthens lines to meet boundaries.

Q3. Write difference between Copy and Mirror.

- **Copy:** Makes duplicate in same direction.

- **Mirror:** Creates **flipped duplicate**.

Q4. What is the importance of Layers in AutoCAD?

- Helps in organizing drawings.

- Allows controlling **visibility, color, and editing**.