1. Exercise : 1 **2. Date:**

3. Title : Essentials of engineering graphics Introduction and basics

4. Aim : To know the importance of Engineering Graphics, standards, lettering; and to draw simple 2D objects in CAD software.

5. Software used:

6. Introduction:

i. About Engineering Graphics:

ii. About Drafting tools and its advantages over conventional drafting:

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

7.3 Conditions (if any) :

Fig. Free hand sketch of the solution to question #

7.4 Drawing Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use

9. Result:

Faculty Name		Date of Submission	
Signature		Marks	

1. Exercise : 2 **2. Date:**

3. Title : Conic and special curves.

4. Aim : To understand and draw conic curves, and special curves like cycloid, involute, and Archimedean spiral.

5. Software used:

6. Introduction:

i. About Conic curves:

ii. About special curves:

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

7.3 Conditions (if any) :

Fig. Free hand sketch of the solution to question #

7.4 Drawing Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use

9. Result:

Faculty Name		**Date of Submission**	
Signature		**Marks**	

1. Exercise : 3 **2. Date:**

3. Title : Fundamentals of projections - Orthographic projection of points and lines.

4. Aim : To draw the orthographic projection of points in various quadrants; straight lines in first quadrant inclined to only one plane, and practice free-hand sketching.

5. Software used:

6. Introduction:

i. About Orthographic projection :

ii. Projection of points and lines:

7. Procedure (for solving question **#**)

7.1 Question outline :

7.2 Object :

7.3 Conditions (if any) :

Fig. Free hand sketch of the solution to question #

7.4 Drawing Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use

9. Result:

Faculty Name		**Date of Submission**	
Signature		**Marks**	

1. Exercise : 4 **2. Date:**

3. Title :Orthographic multi-view projections - lines and planes inclined to both the planes

4. Aim : To draw the orthographic projections of straight lines and planes inclined to both the planes.

5. Software used:

6. Introduction:

i. About Orthographic projection of lines inclined to both the planes:

ii. Projection of planes inclined to both the planes :

7. Procedure (for solving question **#**)

7.1 Question outline :

7.2 Object :

7.3 Conditions (if any) :

Fig. Free hand sketch of the solution to question #

7.4 Drawing Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use

9. Result:

Faculty Name		**Date of Submission**	
Signature		**Marks**	

1. Exercise : **5** **2. Date:**

3. Title : Projection of solids.

4. Aim : To draw the orthographic multi-view projection of solid prisms/ cylinders. pyramids/ cones.

5. Software used:

6. Introduction: Prisms and Cylinders:

6.1 Terminology (pyramid with sketch):	6.2 Real time example - Picture
Fig.	Fig.

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

7.3 Resting on Conditions :

7.4 Other resting condition (if any) :

7.5 Other condition (if any) :

Fig. Free hand sketch of the solution to question #

7.6 Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use
.		

9. Result:

Faculty Name		Date of Submission	
Signature		Marks	

1. Exercise : **6** **2. Date:**

3. Title : Combinations of solids: CSG, and advanced solid modelling.

4. Aim : To model simple combination of solids by Constructive Solid Geometry (CSG), and some advanced models using sweep, loft, shell solid models and obtain their projections.

5. Software used:

6. Introduction: CSG, Advanced solid modelling

6.2 CSG sketch):	6.2 Real time example - Picture
Fig.	Fig.

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

7.3 Resting on Conditions :

7.4 Other resting condition (if any) :

7.5 Other condition (if any) :

Fig. Free hand sketch of the solution to question #

7.6 Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use
.		

9. Result:

Faculty Name		Date of Submission	
Signature		Marks	

1. Exercise : 7 **2. Date:**

3. Title : Section of solids.

4. Aim : To draw the orthographic multi-view projection of sectioned solid like prisms/ cylinders and pyramids/ cones.

5. Software used:

6. Introduction: Section of solids:

6.3 Terminology (with sketch):	6.2 Real time example - Picture
Fig.	Fig.

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

7.3 Resting on Conditions :

7.4 Other resting condition (if any) :

7.5 Other condition (cutting plane) :

Fig. Free hand sketch of the solution to question #

7.6 Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use
.		

9. Result:

Faculty Name		Date of Submission	
Signature		Marks	

1. Exercise : 8 **2. Date:**

3. Title : Building Drawing (2D/3D).

4. Aim : To draw the orthographic multi-view projection of a building with sectioned view showing the construction details.

5. Software used:

6. Introduction: Building drawing, Plan, Elevation and Sectional view:

6.4 Terminology (with sketch):	6.2 Real time example Picture
Fig.	Fig.

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

Fig. Free hand sketch of the solution to question #

7.3 Stepwise procedure:

Step 1.

8. Commands used:

S.N.	Command	Use
.		

9. Result:

Faculty Name		Date of Submission	
Signature		Marks	

1. Exercise : **9** **2. Date:**

3. Title : 3D part modelling – Parametric.

4. Aim : To draw the 3D part modelling in advanced part modelling software.

5. Software used:

6. Introduction: Advanced 3D part modelling software

3D part sketch

Fig. 3D part model

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

Fig. Free hand sketch of the solution to question #

7.3 Procedure:

Step 1.

8. Commands/ tools/ features used:

S.N.	Command/ tool/ features	Use
.		

9. Result:

Faculty Name		**Date of Submission**	
Signature		**Marks**	

1. **Exercise** : **10** **2. Date:**

3. **Title** : Generating 2D drawings from 3D models.

4. **Aim** : To generate associated 2D drawings from 3D models, and to annotate the same.

5. **Software used**:

6. **Introduction**: 2D drawings from 3D models, and on Annotation

Fig, Generated 2D drawing

7. **Procedure** (for solving question **#**):

7.1 Question outline :

7.2 Object :

Fig. Free hand sketch of the solution to question #

7.3 Procedure:

Step 1.

8. Commands/ tools/ features used:

S.N.	Command/ tool/ features	Use
.		

9. Result:

Faculty Name		**Date of Submission**	
Signature		**Marks**	

1. Exercise : 11 **2. Date:**

3. Title : Development of surfaces

4. Aim : To draw the development of lateral surfaces of un-cut and sectioned solid prisms/ cylinders, pyramids/ cones.

5. Software used:

6. Introduction: Development of lateral surfaces.

6.5 Sectioned solid - sketch):

Fig.

6.2 Real times example Picture

Fig.

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

7.3 Resting on Conditions :

7.4 Other resting condition (if any) :

7.5 Other condition - cutting plane :

Fig. Free hand sketch of the solution to question #

7.6 Procedure:

Step 1.

8. Commands used:

S.N.	Command	Use
.		

9. Result:

Faculty Name		Date of Submission	
Signature		Marks	

1. Exercise : **12** **2. Date:**

3. Title : Assembly modelling and generating assembly drawing.

4. Aim : To model assembly of parts and to generate the assembly drawing and exploded views.

5. Software used:

6. Introduction: Assembly of parts and Assembly drawing

Fig. Assembly model

7. Procedure (for solving question **#**):

7.1 Question outline :

7.2 Object :

Fig. Free hand sketch of the solution to question #

7.3 Procedure:

Step 1.

8. Commands/ tools/ features used:

S.N.	Command/ tool/ features	Use
.		

9. Result:

Faculty Name		Date of Submission	
Signature		Marks	