

**LIST OF IDENTIFIED PROFESSIONAL ROLES**

1. To apply knowledge of mathematics, science, and engineering.
2. To design and conduct experiments, as well as to analyze and interpret data.
3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. To function on multidisciplinary teams.
5. To identify, formulate, and solve engineering problems.
6. To understand professional and ethical responsibility.
7. To communicate effectively.
8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context.
9. To engage in lifelong learning.
10. To use the techniques, skills, and modern engineering tools necessary for engineering practice.

## LIST OF SELECTED TERMINAL BEHAVIORS

1. To apply knowledge of mathematics, science, and engineering.
  - TB-1 To understand concepts of production drawing. (502)
  - TB-2 To understand the theory of projections. (502)
2. To design and conduct experiments, as well as to analyze and interpret data.
  - NIL
3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
  - NIL
4. To function on multidisciplinary teams. NIL
5. To identify, formulate, and solve engineering problems
  - TB-1 To select & draw orthographic projections for various objects. (502)
  - TB-2 To select and draw sectional views of various machine components. (502)
  - TB-3 To draw assembly drawings of any component from detailed drawing. (502)
6. To understand professional and ethical responsibility NIL
7. To communicate effectively NIL
8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context.
  - NIL
9. To engage in lifelong learning
  - TB-1 To draw multiple views of any object. (502)
  - TB-2 To draw sectional views of any object. (502)
  - TB-3 To draw threaded fasteners, welded joints and riveted joints. (502)
  - TB-4 To understand various types of couplings and bearings. (502)
  - TB-5 To draw production drawing of any object. (502)
  - TB- 6 To be able to interpret details from any production drawing. (502)
10. To use the techniques, skills, and modern engineering tools necessary for engineering practice. NIL

## **FRAMED COs FOR SELECTED TERMINAL BEHAVIORS**

1. To apply knowledge of mathematics, science, and engineering.

TB-1 To understand concepts of production drawing. (502)

CO1: Describe dimensioning and draw multiview projection.

TB-2 To understand the theory of projections. (502)

CO1: Describe dimensioning and draw multiview projection.

2. To design and conduct experiments, as well as to analyze and interpret data.

NIL

3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

4. To function on multidisciplinary teams. NIL

5. To identify, formulate, and solve engineering problems

TB-1 To select & draw orthographic projections for various objects. (502)

CO1: Describe dimensioning and draw multiview projection.

TB-2 To select and draw sectional views of various machine components. (502)

CO2: Concept of Sectional Views and draw Sectional Views.

TB-3 To draw assembly drawings of any component from detailed drawing. (502)

CO5: Prepare a production drawing.

6. To understand professional and ethical responsibility NIL

7. To communicate effectively NIL

8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context.

NIL

9. To engage in lifelong learning

TB-1 To draw multiple views of any object. (502)

CO1: Describe dimensioning and draw multiview projection.

TB-2 To draw sectional views of any object. (502)

CO2: Concept of Sectional Views and draw Sectional Views.

TB-3 To draw threaded fasteners, welded joints and riveted joints. (502)

CO3: Concept of Threaded joints, Welded Joints and Riveted joints.

TB-4 To understand various types of couplings and bearings. (502)

CO4 : Describe Couplings and Bearings.

TB-5 To draw production drawings of any object. (502)

CO5: Prepare a production drawing.

TB- 6 To be able to interpret details from any production drawing. (502)

10. To use the techniques, skills, and modern engineering tools necessary for engineering practice. NIL

## **CO GROUPING AND COURSE FORMATION**

**COURSE NAME: - PRODUCTION DRAWING (502)**

(Total 100 Hrs. , Total 100 Marks)

### **LIST OF COs:-**

CO1: Describe dimensioning and draw multiview projection. (20 Hrs, 20 marks)

CO2: Concept of Sectional Views and draw Sectional Views. (20 Hrs, 20 marks)

CO3: Concept of Threaded joints, Welded Joints and Riveted joints. (15 Hrs, 15 marks)

CO4: Describe Couplings and Bearings. (10 Hrs, 10 marks)

CO5: Prepare a production drawing. (35 Hrs, 35 marks)

## LOs FORMATION

**COURSE NAME: - PRODUCTION DRAWING (502)**  
**(Total 100 Hrs., Total 100 Marks)**

### List of COs and LOs

**CO1: Describe dimensioning and draw Multi view projection.(20 Hrs., 20Marks)**

LO1: Describe Dimensioning (5 Hrs., 5 Marks)

LO2: Concepts of multi-view projection (15 Hrs., 15 Marks)

**CO2: Concept of sectional views and Draw Sectional views. (20 Hrs, 20 marks)**

LO1: Concept of Sectional Views. (5 Hrs., 5 Marks)

LO2: Draw Sectional views. (15 Hrs., 15 Marks)

**CO3: Concepts of Threaded Joints, Welded Joints and Riveted Joints (15 Hrs, 15 marks)**

LO1: Concepts of Threaded Joints. (05 Hrs., 05 Marks)

LO2: Concepts of Welded Joints. (05 Hrs., 05 Marks)

LO3: Concepts of Riveted Joints. (05 Hrs., 05 Marks)

**CO4: Describe couplings and bearings. (10 Hrs, 10 marks)**

LO1: Describe Couplings. (05 Hrs., 05 Marks)

LO2: Describe Bearings. (05 Hrs., 05 Marks)

**CO5: Prepare a Production Drawing. (35 Hrs, 35 Marks)**

LO1: Explain detailed drawings. (5 Hrs., 5 Marks)

LO2: Draw given views of machine components and their assemblies on drawing sheets. (30 Hrs., 30 Marks)

**PART B:- CURRICULUM OF PRODUCTION ENGINEERING**

RGPV (Diploma Wing ) Bhopal			COURSE PLAN				Format -2	Sheet No. 1/2	
Course Name		<b>Production Drawing</b>				Semester		Fifth	
Branch	PRODUCTION ENGINEERING		Course Code	502	No. of COs	05	No. of LOs	11	
Total Hrs. of Teaching Learning	100	Total Marks	100	Total no. of Assessments		Types of Assessment s	No. of External Assessment		
DESCRIPTION OF OUTCOMES							T-L Hrs.	Max Marks	
CO 01	P055021	<b>Describe dimensioning and draw Multi-view projection.</b>				<b>20</b>	<b>20</b>		
Los	PO550211	Describe Dimensioning.				05	05		
	PO550212	Concepts of multi-view projection				15	15		
CO 02	P055022	<b>Concept of sectional views and Draw Sectional views.</b>				<b>20</b>	<b>20</b>		
Los	PO550221	Concept of Sectional Views.				05	05		
	PO550222	Draw Sectional views.				15	15		
CO 03	P055023	<b>Concepts of Threaded Joints, Welded Joints and Riveted Joints</b>				<b>15</b>	<b>15</b>		
Los	PO550231	Concept of Threaded Joints				05	05		
	PO550232	Concept of Welded Joints				05	05		
	PO550233	Concept of Riveted Joints				05	05		
CO 04	P055024	<b>Describe couplings and bearings.</b>				<b>10</b>	<b>10</b>		
Los	PO550241	Describe couplings				05	05		
	PO550242	Describe Bearings.				05	05		
CO 05	P055025	<b>Prepare a Production Drawing</b>				<b>35</b>	<b>35</b>		
Los	PO550251	Explain detailed drawings.				05	05		
	PO550252	Draw given views of machine components and their assemblies on drawing sheets.				30	30		

RGPV (DIPLOMA WING) BHOPAL		OCB CURRICULUM FOR THE COURSE		<b>FORMAT</b> <b>3</b>	Sheet No.
Branch	<b>Production Engineering</b>			Semester	<b>V</b>
Course Code	<b>502</b>	Course Name	<b>Production Drawing</b>		
<b>Course Outcome 1</b>	Describe dimensioning and draw Multi view projection			Teach Hrs	Marks
<b>Learning Outcome 1</b>	Describe dimensioning			1+4	05
Contents	Types of dimensions (size and location) dimensioning terms and notations. (use of I.S. Code 696 & 2709) general rules for dimensioning, systems of dimensioning. Dimension of cylinder holes, arcs of circle, narrow space, angles, countersunk, counter bore and spot facing, screw threads, taper etc. Projection: orthographic projection. First and third angle projection, views - full and partial, conversion of pictorial views into orthographic views, conventional representation as per IS: 696.				
Method of Assessment	Paper pen test				
<b>Learning Outcome 2</b>	Concepts of multi-view projection			3+12	15
Contents	Projection: orthographic projection. First and third angle projection, views - full and partial, conversion of pictorial views into orthographic views, conventional representation as per IS: 696.				
Method of Assessment	Drawing Examination				
<b>Course Outcome 2</b>	Concept of sectional views and Draw Sectional views.			Teach Hrs	Marks
<b>Learning Outcome 1</b>	Concept of Sectional Views.			1+4	05
Contents	Types of Sectional Views, Sectioning conventions, section lines. Hatching procedure for different materials as per IS code 686 1972.				
Method of Assessment	Assignment				
<b>Learning Outcome 2</b>	Draw Sectional views.			3+12	15
Contents	Draw Sectional Views of different machine components.				
Method of Assessment	Drawing Examination				

Course Outcome 3	Concepts of Threaded Joints, Welded Joints and Riveted Joints	Teach Hrs	Marks
Learning Outcome 1	Concept of Threaded Joints	1+4	05
Contents	Introduction, Screw threads- definitions & Nomenclature, Forms of screw thread, Conventional representation of screw thread, Types of Threaded fasteners: Nuts, Bolts, Stud & Washers etc. procedure of drawing nut, bolt and their assembly.		
Method of Assessment	Drawing Examination		
Learning Outcome 2	Concept of Welded Joints	1+4	05
Contents	Introduction, Types of Welded joints, representation of weld by symbol on production drawing, Welded joints symbols.		
Method of Assessment	Drawing Examination		
Learning Outcome 3	Concept of Riveted Joints	1+4	05
Content	Rivets & method of riveting, Caulking & fullering, types of rivet heads, Rivets symbols, Types of Riveted joints, Definitions of terms associated with rivet joints		
Method of Assessment	Assignment		
Course Outcome 4	Describe couplings and bearings.	Teach Hrs	Marks
Learning Outcome 1	Describe couplings.	3+2	05
Contents	Introduction, Classification of coupling, Flange coupling Unprotected & Protected, Flexible Coupling, Universal coupling.		
Method of Assessment	Paper pen test.		
Learning Outcome 2	Describe Bearings.	3+2	05
Contents	Introduction, types of bearings: rolling contact, sliding contact, journal bearing, bush bearing, Plummer block		
Method of Assessment	Assignment		

Course Outcome 5	Prepare a Production Drawing	Teach Hrs	Marks
Learning Outcome 1	Explain detailed drawings.	1+4	05
Contents	Detailed drawing, assembly drawing, scale, tolerance of forms and positions, notes etc. Title block, tool list, gauge list.		
Method of Assessment	Paper pen Test		
Learning Outcome 2	Draw given views of machine components and their assemblies on drawing sheets.	9+21	30
Contents	Preparation of assembly drawing from detailed drawing. Exploded views, sectional pictorial views, Plummer block, lathe tool post, flange coupling, universal coupling, cotter joint and knuckle joint.		
Method of Assessment	Drawing Examination		

**CO1:LO1**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 01	LO Code 01	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Describe dimensioning and draw Multi view projection.						
LO Description		Describe dimensioning.						
<b>SCHEME OF STUDY</b>								
S. No	Learning Content	Teaching/Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks	
1	Types of dimensions (size and location) dimensioning terms and notations. (use of I.S. Code 696 & 2709) general rules for dimensioning, systems of dimensioning. Dimension of cylinder holes, arcs of circle, narrow space, angles, countersunk, Counter bore and spot facing, screw threads, taper etc. Projection: orthographic projection. First and third angle projection, views -full and partial, conversion of pictorial views into orthographic views, conventional representation as per IS: 696.	Traditional Lecture method, demonstration, quiz.	Teacher will explain the contents. Teacher will conduct practice session to make students practice their knowledge.	01	04	Handout, Book, PPT, charts.		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Paper pen test	For the given learning content, Students write answer of questions and face Practical Viva	05	Progressive test/ End semester exam/ Drawing sheet	Internal /External			
<b>ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)</b>								

**CO1:LO2**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 01	LO Code 02	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Describe dimensioning and draw Multi view projection.						
LO Description		Concepts of multi-view projection						
<b>SCHEME OF STUDY</b>								
S. No.	Learning Content	Teaching– Learning Method	Description of T- L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks	
1	Projection: orthographic projection. First and third angle projection, views - full and partial, conversion of pictorial views into orthographic views, conventional representation as per IS: 696.	Traditional Lecture method + Demonstration	Teacher will explain the content. Teacher will conduct practice session to make Students practice their knowledge.	03	12	Handout Book, PPT, Video lecture		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Drawing Examination	Student will be asked to describe concepts of projections and Multiview representation.	15	Progressive test/ End semester exam/Drawing sheet	Internal /External			
<b>ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)</b>								

**CO2: LO1**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 02	LO Code 01	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Concept of sectional views and Draw Sectional views.						
LO Description		Concept of Sectional Views.						
<b>SCHEME OF STUDY</b>								
S. No.	Learning Content	Teaching-Learning Method	Description of T-L Process	Teach Hrs.	Pract./ Tut Hrs.	LRs Required	Remarks	
1	Types of Sectional Views, Sectioning conventions, section lines. Hatching procedure for different materials as per IS code 686 1972.	Traditional Lecture method + Assignment	Teacher will explain the content to students. Teacher will conduct Progressive test	01	04	Hand out, Book		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Assignment	For the given learning content, Students write answer of questions.	05	Progressive Test paper/ End semester exam/Drawing sheet	Internal /External			
<b>ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)</b>								

**CO2: LO2**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 02	LO Code 02	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Concept of sectional views and Draw Sectional views.						
LO Description		Draw Sectional views.						
<b>SCHEME OF STUDY</b>								
S. No.	Learning Content	Teaching– Learning Method	Description of T- L Process	Teach Hrs.	Pract./ Tut Hrs.	LRs Required	Remarks	
1	Draw Sectional Views of different machine components.	Traditional Lecture method + Assignment	Teacher will explain the content to students. Teacher will conduct Progressive test	03	12	Handout , Book, PPT, Video lecture		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Drawing Examination	Student will be asked to draw a given sectional view with front/top view of a given part.	15	Progressive Test paper/ End semester exam/Drawing sheet	External			
<b>ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)</b>								

**CO3:LO1**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 501	CO Code 03	LO Code 01	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Concepts of Threaded Joints, Welded Joints and Riveted Joints						
LO Description		Concept of Threaded Joints						
SCHEME OF STUDY								
S. No.	Learning Content	Teaching-Learning Method	Description of T-L Process	Teach Hrs.	Prac t./ Tut Hrs.	LRs Required	Remarks	
1	Introduction, Screw threads- definitions & Nomenclature, Forms of screw thread, Conventional representation of screw thread, Types of Threaded fasteners: Nuts, Bolts, Stud & Washers etc. procedure of drawing nut, bolt and their assembly.	Traditional Lecture method + assignment	Teacher will explain the contents and provide handout to students. Teacher will conduct Progressive test	01	04	Handout, Book		
SCHEME OF ASSESSMENT								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Drawing Examination	For the given learning content, Students write answer of questions.	5	Progressive Test paper/ End semester exam/Drawing sheet	Internal /External			
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)								

**CO3:LO2**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 03	LO Code 02	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Concepts of Threaded Joints, Welded Joints and Riveted Joints						
LO Description		Concept of Welded Joints						
<b>SCHEME OF STUDY</b>								
S. No.	Learning Content	Teaching– Learning Method	Description of T-L Process	Teach Hrs.	Pract / Tut Hrs.	LRs Required	Remarks	
1	Introduction, Types of Welded joints, representation of weld by symbol on production drawing, Welded joints symbols.	Traditional Lecture method + Assignment	Teacher will explain the contents to students. Teacher will conduct Progressive test	01	04	Hand out, Book		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Drawing Examination	For the given learning content, Students practice symbol of joints.	5	Progressive Test paper/ End semester exam/Drawig sheet	Internal /External			
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)								

**CO3:LO3**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 03	LO Code 03	Format No. 4
COURSE NAME	PRODUCTION DRAWING							
CO Description	Concepts of Threaded Joints, Welded Joints and Riveted Joints							
LO Description	Concept of Riveted Joints							
SCHEME OF STUDY								
S. No.	Learning Content	Teaching– Learning Method	Description of T-L Process	Teach Hrs.	Pract / Tut Hrs.	LRs Required	Remarks	
1	Rivets & method of riveting, Caulking & fullering, types of rivet heads, Rivets symbols, Types of Riveted joints, Definitions of terms associated with rivet joints.	Traditional Lecture method + Assignment	Teacher will explain the contents to students. Teacher will conduct Progressive test	01	04	Handout, Book		
SCHEME OF ASSESSMENT								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Assignment	For the given learning content, Students write answer of questions.	5	Progressive Test paper/ End semester exam/ Drawing sheet	Internal /External			
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)								

## CO4:LO1

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 04	LO Code 01	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Describe couplings and bearings.						
LO Description		Describe couplings.						
SCHEME OF STUDY								
S. No.	Learning Content	Teaching– Learning Method	Description of T-L Process	Tea ch Hrs	Pract./ Tut Hrs.	LRs Required	Re mar ks	
1	Introduction, Classification of coupling, Flange coupling Unprotected & Protected, Flexible Coupling, Universal coupling.	Traditional Lecture method	Teacher will explain the contents to students.	03	02	Handout , Book		
SCHEME OF ASSESSMENT								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resour ces Required	External / Internal			
1	Paper pen test	For the given learning content, Students write answer of questions.	5	Practical file/End semester exam/Drawing sheet	Internal /External			
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)								

**CO4:LO2**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 04	LO Code 02	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Describe couplings and bearings.						
LO Description		Describe Bearings						
<b>SCHEME OF STUDY</b>								
S. No.	Learning Content	Teaching– Learning Method	Description of T-L Process	Teach Hrs	Pract./ Tut Hrs.	LRs Required	Remarks	
1	Introduction, types of bearings: rolling contact, sliding contact, journal bearing, bush bearing, plumber block.	Traditional Lecture method	Teacher will explain the contents to students.	03	02	Handout , Book		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Assignment	For the given learning content, Students write answer of questions.	5	Progressive Test paper/ End semester exam/Drawing sheet	Internal /External			
<b>ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)</b>								

**CO5:LO1**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 05	LO Code 01	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Prepare a Production Drawing						
LO Description		Explain detailed drawings.						
<b>SCHEME OF STUDY</b>								
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs	Pract./ Tut Hrs	LRs Required	Remarks	
1	Detailed drawing, assembly drawing, scale, tolerance of forms and positions, notes etc. Title block, tool list, gauge list.	Traditional Lecture method + Assignment, Tutorial.	Teacher will explain the content. Teacher will conduct practice session to make students practice their knowledge and Drawing skill.	01	04	Handout, Book, PPT, charts, video film		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal			
1	Paper pen test	Student will be asked to describe details of a given production drawing.	5	Drawing sheet/Assignment/ End semester exam/Drawing sheet	Internal			
<b>ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)</b>								

**CO5: LO2**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME		Branch Code P05	Course Code 502	CO Code 05	LO Code 02	Format No. 4
COURSE NAME		PRODUCTION DRAWING						
CO Description		Prepare a Production Drawing						
LO Description		Draw given views of machine components and their assemblies on drawing sheets.						
<b>SCHEME OF STUDY</b>								
S. No.	Learning Content	Teaching-Learning Method	Description of T-L Process	Teach Hrs.	Pract./Tut Hrs.	LRs Required	Remarks	
1	Preparation of assembly drawing from detailed drawing. Exploded views, sectional pictorial views, Plummer block, lathe tool post, flange coupling, universal coupling, cotter joint and knuckle joint.	Traditional Lecture method, demonstration, assignment	Teacher will explain the content. Teacher will conduct practice session to make students practice their knowledge and drawing skill.	09	21	Handout, Book, PPT, Video lecture		
<b>SCHEME OF ASSESSMENT</b>								
S. No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required		External / Internal		
1	Drawing Examination	For the given learning content, Students write answer of questions and face Practical Viva	30	Progressive paper/ End semester exam/Drawing sheet		Internal / External		
<b>ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)</b>								

## **Reference Books:**

1 Machine drawing by N.D. Bhatt

2 Machine drawing by R.K. Dhawan

3 Machine drawing by V. Lakshminarayanan & M.L. Mathur 4 Machine drawing by P.S. Gill