RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*1*	*1*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Describe Projection, Multi view representation and Sectional views.**
LO Description	Describe concepts of projections and multi-view representation.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Practice /Tut Hrs.	LRs Required	Remarks
1	Projection: orthographic projection. First and third angle projection, superfluous view, choice of views, auxiliary views-views -full and partial, conversion of pictorial views in to orthographic views, conventional representation as per IS: 696.	Interactive Classroom teaching, demonstration, Quiz, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ quiz/practice sessions to make students practice their knowledge.	1	4	Handouts, chalk board, PPT, Text book, charts, video film/ lecture.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper pen test	Student will be asked to describe concepts of projections and multi-view representation.	05	Test paper + Rating scale	Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of progressive exam-1

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*1*	*2*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Describe Projection, Multi view representation and Sectional views.**
LO Description	Explain Sectional views.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	**Sectional Views** : Full section, half section, partial or broken section, revolved section, removed section, offset section. Sectioning conventions, section lines. Hatching procedure for different materials as per IS code 686 1972. Sectional views of assembled parts. Choosing from IC engine parts, couplings, clutches, brackets, bearing etc. (Use 1st angle projection)	Interactive Classroom teaching, demonstration, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ practice sessions to make students practice their knowledge.	03	07	Handouts, chalk board, PPT, Text book, video film/ lecture.	

SCHEME OF ASSESSMENT

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.	10	QUESTION PAPER + RATING SCALE	External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of Theory Exam

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*2*	*1*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Draw dimensioning, tolerance, machining and welding symbols**
LO Description	Draw dimensions and tolerances on given sketch..

SCHEME OF STUDY

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 and practical hints on dimensioning systems of dimensioning. Dimension of cylinder holes arcs of circle narrow space, angles, counter sunk hole, screw threads taper etc. Application of tolerances. (Use I.S. Code 696)	Interactive Classroom teaching, demonstration, Quiz, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ quiz/ practice sessions to make students practice their knowledge.	02	05	Handouts, chalk board, charts, video film/ lecture.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Assignment	1. Student will be asked to explain methods of dimensioning with the help of sketches. 2. Student will be asked to draw dimensions and tolerances on a given sketch.	10	Rubrics/rating scales	Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of Term work

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*2*	*2*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Draw dimensioning, tolerance, machining and welding symbols**
LO Description	Draw different machining and welding symbols

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Machining marks, finish marks, countersinking, counter boring spot facing, figures and notes for same. Representation of characteristics machining (circularity, angularity etc.) (Ref IS 969). Representation of riveted and welded joints, welding symbols, tolerance of forms and positions. Procedure of drawing fits, limits, size, tolerance, clearance etc. Procedure of drawing nut and bolt	Interactive Classroom teaching, demonstration, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ practice sessions to make students practice their knowledge.	02	06	Handouts, chalk board, PPT, Text book, charts, video film/lecture.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Drawing Examination	Student will be asked to draw five machining and five welding symbols.	10	QUESTION PAPER + RATING SCALE	External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of Theory Exam

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*3*	*1*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Prepare a Production drawing.**
LO Description	Explain detailed drawings.

SCHEME OF STUDY

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, finish tolerances, notes etc. Title block, tool list, gauge list	Interactive Classroom teaching, demonstration, Quiz, Assignments, Tutorial.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ quiz/ practice sessions to make students practice their knowledge and drawing skill.	01	04	Handouts, chalk board, PPT, Text book, charts, video film.	

SCHEME OF ASSESSMENT

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.	**10**	Test paper + Rating scale	Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of progressive exam-2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*3*	*2*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Prepare a Production drawing.**
LO Description	Draw given views of machine components and their assemblies on drawing sheets.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Preparation of production drawing for pattern shop, forging shop, machine shop, preparation of assembly drawing from detailed drawing. Exploded views, sectional pictorial views, plummer block, flange coupling, stepped pulleys, foot-step bearing, universal coupling, connecting rod and piston of I.C. engines, cotter joint and knuckle joint. Preparation of detailed drawing from assembly drawings and assembled pictorial views, Interpretation of production drawing	Interactive Classroom teaching, demonstration, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ practice sessions to make students practice their knowledge and drawing skill.	09	21	Handouts, chalk board, PPT, Text book, charts, video film.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Drawing Examination	Student will be asked to draw a production drawing for a given component.	**40**	QUESTION PAPER + RATING SCALE	External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of Theory Exam

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*4*	*1*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Draw different components of a Pipe line.**
LO Description	Draw symbols used in pipe drafting.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Symbols used in pipe line work as per IS code of practice	Interactive Classroom teaching, demonstration, Quiz, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ quiz/ practice sessions to make students practice their knowledge.	02	01	Handouts, chalk board, PPT, Text book, charts, video film.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Paper Pen Test	Student will be asked to draw any five symbols used in pipe lines.	**05**	Test paper + Rating scale	Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of progressive exam 1

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*4*	*2*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Draw different components of a Pipe line.**
LO Description	Draw joints/bends/ pipe supports in pipe drafting

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	C.I. flanged joint, socket and spigot joint, gland and stuffing box, expansion joint, pipe fitting typical pipe bends, pipe supports and accessories.	Interactive Classroom teaching, demonstration, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ practice sessions to make students practice their knowledge.	02	02	Handouts, chalk board, PPT, Text book, charts, video film, virtual lab.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Drawing Examination	Student will be asked to draw any two joints/bends/ pipe supports in pipe drafting.	**10**	QUESTION PAPER + RATING SCALE	External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of Theory Exam

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*5*	*1*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Construct individual and assembly drawing using a CAD Software**
LO Description	Execute draw and modify commands used in CAD software.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Coordinate system, Draw command-line, arc, circle rectangle, polygon, point, ellipse, hatch. erase, copy, offset, array, trim, extend, break, join, chamfer, fillet, move, rotate, scale, stretch, lengthen. Dimensioning Tray settings: snap, grid, ortho, polar, osnap	Interactive Classroom teaching, demonstration, Quiz, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ quiz/ practice sessions on computer.	02	04	Handouts, chalk board, PPT, Text book, charts, video film, CAD lab with plotter.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Lab work	Student will be asked to execute any twelve commands using a CAD software.	**10**	QUESTION PAPER + RATING SCALE	Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Lab Work

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. 4
		M	*0*	*2*	*4*	*0*	*1*	*5*	*2*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	**Construct individual and assembly drawing using a CAD Software**
LO Description	Execute format and construction commands used in CAD software.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Format commands: line type, point style, units, layers, drawing limit, dimension style, text and text styles, formatting dimension style and multi-leader style	Interactive Classroom teaching, demonstration, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ practice sessions on computer.	02	04	Handouts, chalk board, PPT, Text book, charts, video film, CAD lab with plotter.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Lab work	Student will be asked to execute any ten commands using a CAD software.	**10**	QUESTION PAPER + RATING SCALE	Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of Lab work

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code			Course Code			CO Code	LO Code	Format No. **4**
		M	*0*	*2*	*4*	*0*	*1*	*5*	*3*	

COURSE NAME	**Machine drawing and Computer Aided Drafting**
CO Description	Construct individual and assembly drawing using a CAD Software
LO Description	Construction of drawing using CAD.

SCHEME OF STUDY

S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Practice of assembly drawings using CAD, block, creating layout, insert layout, plotting/printing.	Interactive Classroom teaching, demonstration, Assignments.	Teacher will explain the contents and provide handouts to students. Teacher will conduct Assignments/ practice sessions on computer.	05	16	Handouts, chalk board, PPT, Text book, charts, video film, CAD lab with plotter.	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Laboratory test by observation	Student will be asked to draw one assembly drawing using a CAD software for a given assembly.	**30**	Observation schedule/check-list /rating scales /rubrics	External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of Practical Exam