

**RAJIV GANDHI PROUDYOGIKI VISHVAVIDYALAYA (DIPLOMA WING) BHOPAL**

**P05 DIPLOMA IN PRODUCTION ENGINEERING**

**PART A: - PROCESS OF CURRICULUM DEVELOPMENT**

**COURSE NAME: - PRODUCTION TECHNOLOGY-I (402)**

**LIST OF IDENTIFIED PROFESSIONAL ROLES**

1. To apply knowledge of mathematics, science, and engineering.
2. To design and conduct experiments, as well as to analyse 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

COURSE NAME: - **PRODUCTION TECHNOLOGY-I (402)**

**LIST OF SELECTED TERMINAL BEHAVIORS**

1 To apply knowledge of basic mathematics science and engineering fundamentals and engineering

TB1 : To understand the concept of Machining & Machinability.

TB2 : To understand the concept and working of Tools & Tool materials.

TB3 : To know about cutting fluids.

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

TB1: To practice different operations on different machines.

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.

TB1 To design a plant layout of machine shop.

4. To function on multidisciplinary teams.

Nil

5. To identify, formulate, and solve engineering problems.

TB1 To identify cutting tools for different operations.

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.

NIL

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

TB1 To know how to operate machines like Lathe, Milling machine, Shaper, Planer, Drilling, Boring etc.

## FRAMED CO'S FOR SELECTED TERMINAL BEHAVIOUR

1. To apply knowledge of basic mathematics science and engineering fundamentals and engineering

TB1 : To understand the concept of machining & machinability.

CO1: To understand the elements of machining.

TB2 : To understand the concept and working of tool & tool materials.

CO1: To understand the elements of machining.

TB3: To know about cutting fluids.

CO1: To understand the elements of machining.

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

TB1: To practice different operations on different machines.

CO2: To understand working of different Machines.

CO3: To know about different Machining operations.

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.

TB1 To design a plant layout of machine shop.

CO4 To plan and prepare machine layout and foundation.

4. To function on multidisciplinary teams.

Nil

5. To identify, formulate, and solve engineering problems.

TB1 To identify cutting tools for different operations.

CO1: To understand the elements of machining.

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

Nil

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

TB1:To know how to operate machines like lathe, milling machine, shaper, planer, drilling, boring etc.

CO2: To understand working of different Machines.

CO3: To know about different Machining operations.

## **CO GROUPING AND COURSE FORMATION**

**COURSE NAME: - PRODUCTION TECHNOLOGY-I (402)**

(Total 100 Hrs, Total 100 Marks)

CO1 To understand elements of machining. (30 hrs 30 marks)

CO2 To understand working of different Machines. (30 hrs 30 marks)

CO3 To know about different Machining operations. (30 hrs 30 marks)

CO4 To plan and prepare machine layout and foundation. (10 hrs 10 marks)

## **LOs FORMATION**

COURSE NAME:- **PRODUCTION TECHNOLOGY -I** (Total 100 Hrs, Total 100 Marks)

### **CO1: To understand elements of machining. (30 hrs 30 marks)**

LO1: To explain concept of machining and its elements. (10 hrs 10 marks)

LO2: To explain machinability & chip formation. (10 hrs 10 marks)

LO3: To explain tool, tool material and cutting fluid. (10 hrs 10 marks)

### **CO2: To understand working of different Machines. (30 hrs 30 marks)**

LO1: To study of parts and types of different Machines. (15 hrs 15 marks)

LO2: To study working of all the machines. (15 hrs 15marks)

### **CO3 To know about different Machining operations. (30 hrs 30 marks)**

LO1: To explain and demonstrate lathe operations. (10 hrs 10 marks)

LO2: To explain and operate milling, drilling and boring machine. (10 hrs 10 marks)

LO3: To explain and operate shaper and planer M/c. (10 hrs 10 marks)

### **CO4 To plan and prepare machine layout and foundation. (10 hrs 10 marks)**

LO1: To explain general requirements of machine foundations and M/c shop layout. (05 hrs 05 marks)

LO2: To plan and prepare machine shop layout. (05 hrs 05 marks)

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

RGPV (Diploma Wing) Bhopal				COURSE PLAN		Format -2		Sheet No.1/2		
Course Name			Production Technology-I			Semester			<b>Fourth</b>	
Branch		PRODUCTION ENGINEERING		Course Code		402	No. of COs	04	No. of Los	10
Total Hrs. of Teaching Learning	100	Total Marks	100	Total no. of Assessments		Types Of Assessments		No. of External Assessments		
DISCRIPTION OF OUTCOMES								TLHrs	Max. Marks	
<b>CO1</b>	<b>P054021</b>	<b>To understand elements of machining.</b>						<b>30</b>	<b>30</b>	
LOs	P0540211	To explain concept of machining and its elements.						10	10	
	P0540212	To explain machinability & chip formation.						10	10	
	P0540213	To explain tool, tool material and cutting fluid.						10	10	
<b>CO2</b>	<b>P054022</b>	<b>To understand working of different Machines.</b>						<b>30</b>	<b>30</b>	
LOs	P0540221	To study of parts and types of lathe, milling machine, shaper and planer						15	15	
	P0540222	To study working of all the machines						15	15	
<b>CO3</b>	<b>P054023</b>	<b>To know about different Machining operations.</b>						<b>30</b>	<b>30</b>	
LOs	P0540231	To explain and demonstrate lathe operations						10	10	
	P0540232	To explain and operate Milling, Drilling & Boring machine.						10	10	
	P0540233	To explain and operate shaper and planer M/c						10	10	
<b>CO4</b>	<b>P054024</b>	<b>To plan and prepare machine layout and foundation</b>						<b>10</b>	<b>10</b>	
LOs	P0540241	To explain general requirements of machine foundations and plant layout.						05	05	
	P0540242	To plan and prepare machine shop layout.						05	05	

RGPV (DIPLOMA WING) BHOPAL	OCB CURRICULUM FOR THE COURSE		FORMAT 3	SHEET NO 1/3
Branch	PRODUCTION ENGINEERING		SEMESTER	FOURTH
Course code	402	Course Name	PRODUCTION TECHNOLOGY -1	
	<b>Description</b>		T Hrs	Max Marks
<b>CO1</b>	<b>To understand elements of machining.</b>		30	30
	LO1	To explain concept of machining and its elements.	10	10
Content	Mechanics of cutting, orthogonal and oblique cutting , Thermal aspects of machining, Forces in orthogonal cutting.			
Method of Assessment	Pen and Paper			
	LO2	To explain machinability & chip formation.	10	10
Content	Explain chip formation, Types of Chips, Criteria of machinability, Factors affecting machinability , Tool life and wear			
Method of Assessment	Pen & Paper/ <b>Laboratory Assesment</b>			
	LO3	To explain tool, tool material and cutting fluid.	10	10
Content	Types of tool, tool geometry, tool signature and tool material. Cutting Fluid, its classification, and function. Advantages and disadvantages of cutting fluid.			
Method of Assessment	Pen And Paper/ <b>Laboratory Assesment</b>			
<b>CO2</b>	<b>To understand working of different Machines.</b>		30	30
	LO1	To study of parts and types of lathe, milling machine, shaper and planer.	15	15
Content	Specifications of parts and types of Lathe, Shaper and slotter, Planer, Drilling and boring machines, taper turning, thread cutting, quick return mechanism, up milling and down milling			
Method of Assessment	Pen And Paper/ <b>Laboratory Assesment</b>			
	LO2	To study working of all the machines	15	15
Content	Explain Lathe operations, work holding devices of lathe, taper turning and thread cutting on lathe. Explain how shaper works on Quick Return Mechanism, how to cut a slot and keyway on shaper machine. Explain milling operations, up and down milling, indexing. Explain Drilling and boring operations on drilling machine. Explain working of planer.			
Method of Assessment	Pen And Paper/ <b>Laboratory Assesment</b>			
<b>CO3</b>	<b>To know about different Machining operations</b>		30	30
	LO1	To explain and demonstrate lathe operations	10	10
Content	Demonstrate operations on lathe such as Turning, Taper turning, Thread cutting etc.			
Method of Assessment	Pen And Paper/ <b>Laboratory Assesment</b>			
	LO2	To explain and operate Milling, Drilling & Boring machine.	10	10
Content	Demonstrate how to work on milling machine: operations like up and down milling, Indexing on milling machine to cut gears. Demonstrate operations of drilling and boring M/c			
Method of Assessment	Pen And Paper/ <b>Laboratory Assesment</b>			
	LO3	To explain and operate shaper and planer M/c	10	10
Content	Demonstrate working of shaper, Quick Return Mechanism, Slot cutting and			

	making a keyway. Demonstrate Working of slotter. Demonstrate the working of planer.		
Method of Assessment	Pen And Paper/ <b>Laboratory Assesment</b>		
CO4	<b>To plan and prepare machine layout and foundation</b>	10	10
LO1	Explain general requirements of machine foundations and M/c shop layout.	05	05
Content	General requirements of Machine foundations and M/c shop layout.		
Method of Assessment	Pen And Paper/ <b>Laboratory Assesment</b>		
LO2	Plan and prepare Machine shop layout.	05	05
Content	Design of layout of machines in machine shop keeping in mind space, light, air circulation and future expansion.		
Method of Assessment	Pen and Paper		



**CO1: LO1**

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 01	LO Code 01	Format No. 4	
Course Name	PRODUCTION TECHNOLOGY - 1						
CO1: Description	<b>To understand elements of machining.</b>						
LO1: Description	To explain concept of machining and its elements.						
SCHEME OF STUDIES							
S.No	Learning Content	Tecching Learning Method	Description of T-L Process	Teac hing. Hrs	Pract. /Tut Hrs.	LRs Required	Re ma rks
1	Mechanics of cutting, orthogonal and oblique cutting, Thermal aspects of machining, Forces in orthogonal cutting.	Traditional teaching+ ppt	Teacher will explain the contents using chalk duster board and ppt. Teacher will conduct Progressive test/ Assignment so that students <b>explain concept of machining and its elements.</b>	10	-	Soft/hard copy of ppt +books	
SCHEME OF ASSESSMENT							
SNo	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.	10	Progressive Test paper/ End semester exam	Internal /External		
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

## CO1:LO2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 01	LO Code 02	Format No. 4	
Course Name	PRODUCTION TECHNOLOGY - 1						
CO Description	<b>To understand elements of machining.</b>						
LO Description	To explain machinability & chip formation.						
SCHEME OF STUDIES							
SNo	Learning Content	Teaching Learning Method	Description of T-L Process	Te ac h. Hr s	Pract. /Tut Hrs.	LRs Required	Remarks
1	Explain chip formation, Types of Chips, Criteria of machinability, Factors affecting machinability, Tool life and wear.	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chalk duster board and ppt. Teacher will conduct Progressive test/ give Assignment/Visit to workshop so that Student will <b>explain machinability &amp; chip formation.</b>	06	04	Soft and hard copy of ppt+ links to study notes and book, Laboratory	
SCHEME OF ASSESSMENT							
S No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	10	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<b>List of Practical:</b>							
1. Study of different types of chips formation in Workshop.							
2. Study of cutting speed, feed and depth of cut in workshop.							
3. Study of Tool Life and wear.							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

## C01: LO3

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME	Branch Code P05	Cour se Code 402	CO Code 01	LO Code 03	Format No. 4
Course Name		PRODUCTION TECHNOLOGY - 1					
CO Description		<b>To understand elements of machining.</b>					
LO Description		To explain tool, tool material and cutting fluid.					
SCHEME OF STUDIES							
S N o	Learning Content	Teaching Learning Method	Description of T-L Process	Teac h. Hrs	Pract. /Tut Hrs.	LRs Required	Remar ks
1	Types of tool, tool geometry, tool signature and tool material. Cutting Fluid, its classification, and function. Advantages and disadvantages of cutting fluid.	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chalk duster board and ppt. Teacher will conduct Progressive test/ give Assignment/Visit to workshop so that Student will <b>explain tool, tool material and cutting fluid.</b>	06	04	Soft and hard copy of ppt+ links to study notes and book, Laboratory	
SCHEME OF ASSESSMENT							
S No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	10	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<b>List of Practical:</b>							
1. Study of different types of Tool, Tool geometry and tool signature.							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

**CO2: LO1**

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 02	LO Code 01	Format No. 4
Course Name		PRODUCTION TECHNOLOGY - 1					
CO Description		<b>To understand working of different Machines.</b>					
LO Description		To study of parts and types of lathe, milling machine, shaper and planer.					
SCHEME OF STUDIES							
S No	Learning Content	Teaching Learning Method	Description of T-L Process	Teaching Hrs	Pract. /Tut Hrs.	LRs Required	Remarks
1	Specifications of parts and types of Lathe, Shaper and slotter, Planer, Drilling and boring machines, taper turning, thread cutting, quick return mechanism, up milling and down milling	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chalk duster board and ppt. Teacher will conduct Progressive test/ give Assignment/Visit to workshop so that Student will <b>explain parts and types of lathe, milling machine, shaper and planer.</b>	09	06	Soft and hard copy of ppt+ links to study notes and book, Laboratory	
SCHEME OF ASSESSMENT							
S No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	15	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<b>List of Practical:</b>							
1. Study of different types of Lathe M/c and its parts							
2. Study of Milling, Drilling M/c and its parts							
3. Study of Shaper, Planer M/c and its parts							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

## CO2:LO2

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 02	LO Code 02	Format No. 4
Course Name		PRODUCTION TECHNOLOGY - 1					
CO Description		<b>To understand working of different Machines.</b>					
LO Description		To study working of all the machines					
SCHEME OF STUDIES							
S No	Learning Content	Teaching Learning Method	Description of T-L Process	Teach ing Hrs	Prac t. /Tut Hrs.	LRs Required	Remarks
1	<p>Explain Lathe operations, work holding devices of lathe, taper turning and thread cutting on lathe.</p> <p>Explain how shaper works on Quick Return Mechanism, how to cut a slot and keyway on shaper machine.</p> <p>Explain milling operations, up and down milling, indexing.</p> <p>Explain Drilling and boring operations on drilling machine.</p> <p>Explain working of planer.</p>	<p>Traditional teaching +ppt</p> <p><b>Workshop Visit</b></p>	<p>Teacher will explain the contents using chalk board and ppt. Teacher will conduct Progressive test/ give Assignment/Visit to workshop so that Student will <b>explain working of all the machines e.g. Lathe, Milling, Drilling, Shaper etc.</b></p>	07	08	Soft and hard copy of ppt+ links to study notes and book, Laboratory	
SCHEME OF ASSESSMENT							
S No	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	15	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<p><b>List of Practical:</b></p> <ol style="list-style-type: none"> <li>1. Study of different types of Lathe M/c and its parts</li> <li>2. Study of Milling, Drilling M/c and its parts</li> <li>3. Study of Shaper, Planer M/c and its parts</li> </ol>							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

CO3:L01

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 03	LO Code 01	Format No. 4	
Course Name	PRODUCTION TECHNOLOGY - 1						
CO Description	<b>To know about different Machining operations.</b>						
LO Description	To explain and demonstrate lathe operations						
SCHEME OF STUDIES							
S.No	Learning Content	Tecching Learning Method	Description of T-L Process	Teac h. Hrs	Pract. /Tut Hrs.	LRs Required	Rem a rks
1	Demonstrate operations on lathe such as Turning, Taper turning, Thread cutting etc.	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chak duster board and ppt. and Workshop Instructor will demonstrate working of Lathe m/c in workshop so that Student will <b>explain and demonstrate lathe operations.</b>	4	6	Soft/hard copy of ppt +books/ Workshop visit	
SCHEME OF ASSESSMENT							
SNo	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	10	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<b>List of Practical:</b>							
1. Study and practice of different types of operations e.g. Turning, Taper turning, Thread cutting etc on Lathe M/c.							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

## CO3:LO2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 03	LO Code 02	Format No. 4	
Course Name	PRODUCTION TECHNOLOGY - 1						
CO Description	<b>To know about different Machining operations.</b>						
LO Description	To explain and operate Milling, Drilling & Boring machine						
SCHEME OF STUDIES							
S.No	Learning Content	Tecching Learning Method	Description of T-L Process	Teach . Hrs	Pract. /Tut Hrs.	LRs Required	Re ma rks
1	Demonstrate how to work on milling machine: operations like up and down milling, Indexing on milling machine to cut gears.  Demonstrate operations of drilling and boring M/c	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chalk duster board and ppt. and Workshop Instructor will demonstrate working of Lathe m/c in workshop so that Student will <b>explain and operate Milling, Drilling &amp; Boring machine</b>	4	6	Soft/hard copy of ppt +books/ Workshop visit	
SCHEME OF ASSESSMENT							
SNo	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	10	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<b>List of Practical:</b>							
1. Study and practice of different types of operations on Milling, drilling and boring M/c.							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

## CO3:LO3

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 03	LO Code 03	Format No. 4	
Course Name	PRODUCTION TECHNOLOGY - 1						
CO Description	<b>To know about different Machining operations.</b>						
LO Description	To explain and operate shaper and planer M/c						
SCHEME OF STUDIES							
S.No	Learning Content	Teaching Learning Method	Description of T-L Process	Teach . Hrs	Pract. /Tut Hrs.	LRs Required	Re ma rks
1	Demonstrate working of shaper, Quick Return Mechanism, Slot cutting and making a keyway.  Demonstrate Working of slotter.  Demonstrate the working of planer.	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chalk duster board and ppt. and Workshop Instructor will demonstrate working of Lathe m/c in workshop so that Student will <b>explain and operate shaper and planer M/c</b>	4	6	Soft/hard copy of ppt +books/ Workshop visit	
SCHEME OF ASSESSMENT							
SNo	Method of Assessment	Description of Assessment	Maximu m Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assessment</b>	For the given learning content, Students write answer of questions and face practical Viva.	10	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<b>List of Practical:</b>							
1. Study and practice of different types of operations on Shaper, slotter and Planer M/c.							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							



**CO4:LO1**

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 04	LO Code 01	Format No. 4	
Course Name	PRODUCTION TECHNOLOGY - 1						
CO Description	<b>To plan and prepare machine layout and foundation</b>						
LO Description	Explain general requirements of machine foundation and M/c shop layout.						
<b>SCHEME OF STUDIES</b>							
S. No	Learning Content	Tecching Learning Method	Description of T-L Process	Teach . Hrs	Pract. /Tut Hrs.	LRs Required	Re ma rks
1	General requirements of Machine foundation and M/c shop layout.	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chalk duster board and Workshop Instructor will demonstrate M/c foundation so that Student will <b>explain general requirements of machine foundation and M/c shop layout.</b>	03	02	Notes/ handouts+ books+ workshop	
<b>SCHEME OF ASSESSMENT</b>							
SNo	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	05	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<p><b>List of practical</b> To study the general requirements of M/c foundation.</p>							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

CO4:LO2

RGPV (Diploma Wing) Bhopal	SCHEME FOR LEARNING OUTCOME	Branch Code P05	Course Code 402	CO Code 04	LO Code 02	Format No. 4	
Course Name	PRODUCTION TECHNOLOGY - 1						
CO Description	<b>To plan and prepare machine layout and foundation</b>						
LO Description	Plan and prepare Machine shop layout.						
SCHEME OF STUDIES							
S.No	Learning Content	Tecching Learning Method	Description of T-L Process	Teach . Hrs	Pract. /Tut Hrs.	LRs Required	Re ma rks
1	Design of layout of machines in machine shop keeping in mind space, light, air circulation and future expansion.	Traditional teaching +ppt <b>Workshop Visit</b>	Teacher will explain the contents using chalk duster board and Workshop Instructor will demonstrate M/c foundation so that Student will <b>Plan and prepare Machine shop layout.</b>	03	02	Notes/ handouts+ books+ workshop	
SCHEME OF ASSESSMENT							
SNo	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal		
1	Paper pen test/ <b>Laboratory Assesment</b>	For the given learning content, Students write answer of questions and face practical Viva.	05	Progressive Test paper/ Practical file/ End semester exam	Internal /External		
<b>List of practical</b> 1. To plan and prepare M/c shop Layout.							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)							

Reference:

1. Production Technology by RK Jain
2. Workshop technology By Hajra & choudhary Vol. I & II.
3. Workshop technology By Raghuvanshi