# 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.

Ni]

9. To engage in lifelong learning

Ni

- 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 Wi  | ng) Bhop                                       | al               |             |   | COURSE              | PLAN    | F        | ormat -2          |       | Sheet No.1/2                          |    |
|--------------------------|--|--|------------------|-------------|---|---------------------|---------|----------|-------------------|-------|---------------------------------------|----|
| Course                   | Name   |  |                  | Produc      | tion Te   | chnology-I          |         |          | Semes             | ter   | Fourth                                | 1  |
| Branch                   |  |  | PRODUC<br>ENGINE |             |   | Course Code         |         | 402      | No. of<br>COs     | 04    | No. of Los                            | 10 |
| Total H<br>Teachin<br>Le |  | 100  | Total<br>Marks   | 100         | As  | no. of<br>sessments |         |          | pes Of<br>ssments |       | No. of<br>External<br>Assessm<br>ents |    |
|                          | DISCRIPTION OF OUTCOMES                                |  |                  |             |   |                     |         |          |                   | TLHrs | Max.<br>Marks                         |    |
| CO1                      | P054021  | Т  | o understa       | nd eleme    | nts of n  | nachining.          |         |          |                   |       | 30                                    | 30 |
|                          | P0540211   | Т  | o explain c      | oncept of   | machini   | ing and its elem    | ents.   |          | 10                | 10    |                                       |    |
| LOs                      | Os P0540212 To explain machinability & chip formation. |  |                  |             |   | 10                  | 10      |          |                   |       |                                       |    |
|                          | P0540213   | Т  | o explain to     | ool, tool m | aterial a   | and cutting flui    | d.      |          |                   |       | 10                                    | 10 |
| CO2                      | P054022  | Т  | o understa       | nd worki    | ng of di  | ifferent Machi      | nes.    |          |                   |       | 30                                    | 30 |
|                          | P0540221   | Т  | o study of p     | parts and t | and types of lathe, milling machine, shaper and planer 15 |                     |         | 15       | 15                |       |                                       |    |
| LOs                      | P0540222   | Т  | o study wo       | rking of al | l the ma  | achines             |         |          |                   |       | 15                                    | 15 |
| CO3                      | P054023  | 7  | To know ab       | out differ  | rent Ma   | achining opera      | tions.  |          |                   |       | 30                                    | 30 |
|                          | P0540231   | Т  | o explain a      | nd demons   | strate la   | the operations      |         |          |                   |       | 10                                    | 10 |
| LOs                      | P0540232   | Т  | o explain a      | nd operate  | Milling   | g, Drilling & Bo    | oring n | nachine  | 1.                |       | 10                                    | 10 |
|                          | P0540233   | 7  | o explain a      | ınd operat  | e shapeı  | and planer M/       | C       |          |                   |       | 10                                    | 10 |
| CO4                      | P054024  | Т  | o plan and       | prepare     | machin  | e layout and fo     | ounda   | tion     |                   |       | 10                                    | 10 |
|                          | P0540241   | Т  | o explain g      | eneral req  | uiremen   | nts of machine f    | ounda   | tions ar | nd plant layo     | ut.   | 05                                    | 05 |
| LOs                      | P0540242   | 42 To plan and prepare machine shop layout. 05 |                  |             |   |                     |         | 05       |                   |       |                                       |    |

| RGPV (DIPLOMA<br>WING) BHOPAL | OCB CURRICULUM FOR THE COURSE  | FORMAT 3                          | S1<br>1/               | HEET NO<br>3       |
|-------------------------------|--|-----------------------------------|------------------------|--------------------|
| Branch                        | PRODUCTION ENGINEERING   | SEMESTER                          | F                      | OURTH              |
| Course code                   | 402 Course Name PRODUCT  | TION TECHNO                       | OLOGY -                | -1                 |
|                               | Description  |                                   | T Hrs                  | Max<br>Marks       |
| CO1                           | To understand elements of machining.   |                                   | 30                     | 30                 |
| LO1                           | To explain concept of machining and its element  | S.                                | 10                     | 10                 |
| Content                       | Mechanics of cutting, orthogonal and oblique machining, Forces in orthogonal cutting.  | ie cutting , T                    | Thermal                | aspects of         |
| Method of Assessment          | Pen and Paper  | 1                                 |                        |                    |
| LO2                           | To explain machinability & chip formation.   |                                   | 10                     | 10                 |
| Content                       | Explain chip formation, Types of Chips, C affecting machinability, Tool life and wear  | riteria of mad                    | chinabilit             | y, Factors         |
| Method of Assessment          | Pen & Paper/ Laboratory  | Assesment                         |                        |                    |
| LO3                           | To explain tool, tool material and cutting fluid.  |                                   | 10                     | 10                 |
| Content                       | Types of tool, tool geometry, tool signature an classification, and function. Advantages and disa  |                                   |                        |                    |
| Method of Assessment          | Pen And Paper/ Laborator   | y Assesment                       |                        |                    |
|                               |  |                                   |                        |                    |
| CO2                           | To understand working of different Machines  | •                                 | 30                     | 30                 |
| LO1                           | To study of parts and types of lathe, milling ma and planer.   | chine, shaper                     | 15                     | 15                 |
| Content                       | Specifications of parts and types of Lathe, Shape boring machines, taper turning, thread cutting, quand down milling   |                                   |                        |                    |
| Method of Assessment          | Pen And Paper/ Laborator   | y Assesment                       |                        |                    |
| LO2                           | To study working of all the machines   |                                   | 15                     | 15                 |
| Content                       | Explain Lathe operations, work holding devices cutting on lathe. Explain how shaper works on cut a slot and keyway on shaper machine. Explain milling, indexing. Explain Drilling and boring Explain working of planer.  | Quick Return l<br>n milling opera | Mechanis<br>ations, up | m, how to and down |
| Method of Assessment          | Pen And Paper/ Laborator   | y Assesment                       |                        |                    |
| CO2                           | The large shows life and the same shows the same sh |                                   | 20                     | 20                 |
| CO3                           | To know about different Machining operation  | ns                                | 30                     | 30                 |
| LO1                           | To explain and demonstrate lathe operations  Demonstrate operations on lathe such as Turni   | ng Tanar trees                    | 10                     | 10                 |
| Content                       | etc.   | ng, raper turn                    | ıııg, ınr€             | au culling         |
| Method of Assessment          | Pen And Paper/ Laborator   | v Assesment                       |                        |                    |
| LO2                           | To explain and operate Milling, Drilling & Borin   |                                   | 10                     | 10                 |
| Content                       | Demonstrate how to work on milling machin milling, Indexing on milling machine to cut drilling and boring M/c  | e: operations                     | like up                | and down           |
| Method of Assessment          | Pen And Paper/ Laborator   | y Assesment                       |                        |                    |
| LO3                           |  |                                   | 4.0                    |                    |
| LO3                           | To explain and operate shaper and planer M/c  Demonstrate working of shaper, Quick Return  |                                   | 10                     | 10                 |

|                      | making a keyway. Demonstrate Working of slotter. Demonstr                | rate the v | vorking of   |
|----------------------|--|------------|--------------|
|                      | planer.  |            |              |
| Method of Assessment | Pen And Paper/ Laboratory Assesment                                      |            |              |
| CO4                  | To plan and prepare machine layout and foundation                        | 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 lay             | out.       |              |
| Method of Assessment | Pen And Paper/ Laboratory Assesment                                      |            |              |
| LO2                  | Plan and prepare Machine shop layout.                                    | 05         | 05           |
| Content              | Design of layout of machines in machine shop keeping in mi               | ind space  | , light, air |
|                      | circulation and future expansion.  |            |              |
| Method of Assessment | Pen and Paper  |            |              |

# CO1: LO1

| Bhopal Course | Name  | OUTCOM<br>PRODUCT                            | TION TECHNOLO                        | OGY - 1   | anch<br>ode<br>205                           | Cou<br>Coo<br>40.                                | le                   | CO<br>Code<br>01                  | LO<br>Code<br>01        | For<br>N           |                 |
|---------------|---|--|--------------------------------------|---|--|--|----------------------|-----------------------------------|-------------------------|--------------------|-----------------|
| CO1: I        | Description   | To unders                                    | tand elements of n                   | nachining.  |  |  |                      |                                   |                         |                    |                 |
| LO1: I        | Description   | To explain                                   | concept of machini<br>SCHE           | ing and its<br>ME OF ST   |  | S.   |                      |                                   |                         |                    |                 |
| S.No          | Learning Co   | ntent  | Tecching<br>Learning<br>Method       | 1   | iption o<br>Process                          | f T-L  | Teac<br>hing.<br>Hrs | Pract.<br>/Tut<br>Hrs.            | LR:<br>Requi            |                    | Re<br>ma<br>rks |
| 1             | Mechanics of orthogonal and cutting, Thermal machining, For orthogonal cutting. | cutting,<br>oblique<br>aspects of<br>rces in | Traditional teaching+ ppt            | Teacher contents duster by Teacher Progressi Assignm students of maclelements | using coard a will eve ent so explain hining | chalk nd ppt. conduct test/ that concept and its | 10                   | -                                 | Soft/hard<br>of ppt +bo |                    |                 |
| SNo           | Method of<br>Assessment   | Des  | cription of Assessn                  |   | Ma   | ximum<br>Iarks                                   |                      | esources<br>Required              |                         | xternal<br>Interna |                 |
| 1             | Paper pen test  |  | given learning<br>write answer of qu |   |  | 10   | paper                | ressive Te<br>r/ End<br>ster exam |                         | al /Exte           | rnal            |
|               | 1   | ADD:   | ITIONAL INSTRU                       | CTIONS I  | FOR TH                                       | E HOD/ F   | ACULT                | Y (IF AN                          | Y)                      |                    |                 |

#### CO1:LO2

| RGPV (Diploma Wing)                                       | SCHEME FOR LEARNING           | Branch  | Course | CO   | LO   | Format |  |
|---|-------------------------------|---------|--------|------|------|--------|--|
| Bhopal  | OUTCOME                       | Code    | Code   | Code | Code | No.    |  |
|   |                               | P05     | 402    | 01   | 02   | 4      |  |
|   |                               |         |        |      |      |        |  |
| Course Name   | me PRODUCTION TECHNOLOGY - 1  |         |        |      |      |        |  |
| CO Description  | To understand elements of mac | hining. |        |      |      |        |  |
| LO Description To explain machinability & chip formation. |                               |         |        |      |      |        |  |
|   | SCHEME OF STUDIES             |         |        |      |      |        |  |

| SN | Content   | Teaching<br>Learning<br>Method | Description of T-L<br>Process   | Te<br>ac<br>h.<br>Hr<br>s | Pract.<br>/Tut<br>Hrs. | LRs<br>Required   | Remarks |
|----|---|--------------------------------|---|---------------------------|------------------------|---|---------|
| 1  | Explain chip formation, Types of Chips, Criteria of machinability, Factors affecting machinability, Tool life and wear. | Workshop Visit                 | 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 explain machinability & chip formation. | 06                        | 04                     | Soft and hard<br>copy of ppt+<br>links to study<br>notes and<br>book,<br>Laboratory |         |

# SCHEME OF ASSESSMENT

| S  | Method of                                     | Description of Assessment  | Maximum | Resources   | External /            |
|----|---|--|---------|---|-----------------------|
| No | Assessment                                    |  | Marks   | Required  | Internal              |
| 1  | Paper pen<br>test/<br>Laboratory<br>Assesment | For the given learning content, Students write answer of questions and face practial Viva. | 10      | Progressive Test paper/<br>Practical file/ End semester<br>exam | Internal<br>/External |

# List of Practical:

- Study of different types of chips formation in Workshop.
   Study of cutting speed, feed and depth of cut in workshop.
   Study of Tool Life and wear.

|             | PV (Diploma Wing)   | SCHEME FO  |  |   | Cour  | CO                     | LO                       |   | Format            |
|-------------|---|--|--|---|---|------------------------|--------------------------|---|-------------------|
| Bho         | ppal  | LEARNING<br>OUTCOME                                  | Code<br>P05  | e   | se<br>Code<br>402                                     | Code<br>01             | Code<br>03               |   | No.<br>4          |
| Cou         | irse Name   | PRODUCTION   | ON TECHNOLOGY  | - 1   |   |                        |                          |   |                   |
| CO          | Description   | To understa  | nd elements of mach  | ining.  |   |                        |                          |   |                   |
| LO          | Description   | To explain to  | ool, tool material and o   | cutting fluid.  | fluid.  |                        |                          |   |                   |
|             |   |  | SCHEME OF  | STUDIES   |   |                        |                          |   |                   |
| S<br>N<br>o | Learning Content  | Teaching<br>Learning<br>Method                       | Description<br>Proce   |   | Teac<br>h.<br>Hrs                                     | Pract.<br>/Tut<br>Hrs. | LR<br>Requi              | _ | Rema<br>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<br>teaching<br>+ppt<br>Workshop<br>Visit | Teacher will explausing chalk duster Teacher will cond test/ give Assig workshop so that explain tool, tool cutting fluid. | board and ppt.<br>uct Progressive<br>nment/Visit to<br>Student will | 06 04 Soft and copy of links to notes book, Laborator |                        | f ppt+<br>o study<br>and |   |                   |
|             |   |  | SCHEME OF AS   | SSESSMENT   |   |                        | -1                       |   |                   |
| SN          | Method of Assessment  | Descri   | ption of Assessment  | Maximum<br>Marks  |   | Resourc<br>Require     |                          |   | ernal /<br>ternal |
| 1           | Paper pen test/ Laboratory Assesment  | Students   | iven learning content,<br>write answer of<br>and face practial Viv   | 10<br>a.  |   |                        | Interna<br>/Extern       |   |                   |
| List        | of Practical:   |  |  |   |   |                        |                          |   |                   |

### CO2: LO1

| RGPV   | (Diploma Wing)                           | SCHEME FO   | OR           | Branch            | Co       | urse  | CO     | LO             | Format |
|--|--|-------------|--------------|-------------------|----------|-------|--------|----------------|--------|
| Bhopa  | 1  | LEARNING    |              | Code              | Co       | ode   | Code   | Code           | No.    |
|  |  | OUTCOME     |              | P05               | 4        | 02    | 02     | 01             | 4      |
|  |  |             |              |                   |          |       |        |                |        |
| Course   | e Name                                   | PRODUCTION  | ON TECHNO    | LOGY - 1          |          |       |        |                |        |
| CO Description To understand working of different Machines.                              |  |             |              |                   |          |       |        |                |        |
| LO Description To study of parts and types of lathe, milling machine, shaper and planer. |  |             |              |                   |          |       |        |                |        |
|  |  |             | SCHEM        | E OF STUDIES      |          |       |        |                |        |
| S No   | Learning Content                         | Teaching    | Desc         | ription of T-L    |          | Teach | Pract. | LRs            | Remark |
| Learning Process ing.  |  |             |              | /Tut              | Required | S     |        |                |        |
|  |  | Method      |              |                   |          | Hrs   | Hrs.   |                |        |
|  |  |             |              |                   |          |       |        |                |        |
| 1  | Specifications of parts                  | Traditional | Teacher will | explain the con-  | tents    | 09    | 06     | Soft and hard  |        |
|  | and types of Lathe,                      | teaching    | using chalk  | duster board and  | ppt.     |       |        | copy of ppt+   |        |
|  | Shaper and slotter,                      | +ppt        |              | conduct Progres   |          |       |        | links to study |        |
|  | Planer, Drilling and                     | Workshop    |              | Assignment/Visit  |          |       |        | notes and      |        |
|  | boring machines, taper                   | Visit       | workshop so  | o that Student    | will     |       |        | book,          |        |
|  | turning, thread cutting,                 |             | explain part | s and types of la | ithe,    |       |        | Laboratory     |        |
|  | quick return milling machine, shaper and |             |              |                   |          |       |        |                |        |
|  | mechanism, up milling                    |             | planer.      |                   |          |       |        |                |        |
|  | and down milling                         |             |              |                   |          |       |        |                |        |
|  |  |             |              |                   |          |       |        |                |        |
|  | SCHEME OF ASSESSMENT                     |             |              |                   |          |       |        |                |        |

| S  | Method of                                  | Description of Assessment  | Maximum | Resources   | External /            |
|----|--|--|---------|---|-----------------------|
| No | Assessment                                 |  | Marks   | Required  | Internal              |
| 1  | Paper pen test/<br>Laboratory<br>Assesment | For the given learning content, Students write answer of questions and face practial Viva. | 15      | Progressive Test paper/<br>Practical file/ End semester<br>exam | Internal<br>/External |

# List of Practical:

- Study of different types of Lathe M/c and its parts
   Study of Milling, Drilling M/c and its parts
   Study of Shaper, Planer M/c and its parts

| RGP   | V (Diploma Wing)  | SCHEME FO                 | )R  | Branch  | Cou   | rse   | CO           | LO  |                          | Format    |
|-------|---|---------------------------|---|---|---|-------|--------------|---|--------------------------|-----------|
| Bho   |   | LEARNING                  |   | Code  | Cod   | l l   | Code         | Cod   |                          | No.       |
| Diloj | , Juli  | OUTCOME                   |   | P05   | 40  |       | 02           | 02  | -                        | 4         |
|       |   |                           |   |   |   |       |              |   |                          |           |
| Cou   | rse Name  | PRODUCTION                | T NC  | ECHNOLOGY - 1   | ĺ   | ·     | •            |   |                          |           |
| CO I  | Description   | To understa               | nd w  | orking of differen  | rent Machines.                                    |       |              |   |                          |           |
| LO I  | Description   | To study wor              | king  | of all the machines   | 1   |       |              |   |                          |           |
|       |   | SC                        | CHEM  | IE OF STUDIES   |   |       |              |   |                          |           |
| S     | Learning Content  | Teaching                  |   | Description of T-   | ·L  | Teach |              | LF  |                          | Remarks   |
| No    |   | Learning                  |   | Process   |   | ing   | t.           | Requ  | ired                     |           |
|       |   | Method                    |   |   |   | Hrs   | /Tut<br>Hrs. |   |                          |           |
| 1     | 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. | +ppt<br>Workshop<br>Visit | cont<br>boar<br>cond<br>give<br>work<br>will<br>the | cher will explaitents using chakerd and ppt. Teached duct Progressive exsignment/Viskshop so that Sexplain working machines e.g. Isling, Drilling, Sexplain working machines e.g. | duster er will test/ sit to ctudent of all Lathe, | 07    | 08           | Soft<br>hard co<br>ppt+ lin<br>study<br>and<br>Labora | nks to<br>notes<br>book, |           |
|       |   | SCHI                      | EME   | OF ASSESSMENT   | Γ   | l     |              | -1  |                          | <u> </u>  |
| S     | Method of   | Description of            | Δεςρ  | eemont May  | imum  |       | Resource     | )C  | Ex                       | cternal / |

| - 1 | S<br>No | Method of<br>Assessment                 | Description of Assessment  | Maximum<br>Marks | Resources<br>Required   | External /<br>Internal |
|-----|---------|---|--|------------------|---|------------------------|
| 1   |         | Paper pen test/ Laboratory<br>Assesment | For the given learning content, Students write answer of questions and face practial Viva. | 15               | Progressive Test paper/<br>Practical file/ End<br>semester exam | Internal<br>/External  |

# List of Practical:

- Study of different types of Lathe M/c and its parts
   Study of Milling, Drilling M/c and its parts
   Study of Shaper, Planer M/c and its parts

# CO3:L01 RGPV (Diploma Wing)

| Bhopal |  | OUTCOME   | ГСОМЕ   |  | Code<br>402      |                       | Code Code 03 01  |          | No. 4                  |     |
|--------|--|-----------|---|--|------------------|-----------------------|--|----------|------------------------|-----|
| Course | e Name   | PRODUCTIO | ON TECHNOLO   | <br>  <br>  OGY - 1  |                  |                       |  |          |                        |     |
|        | escription   |           | out different Ma  |  | ations.          |                       |  |          |                        |     |
|        | escription   |           | d demonstrate la  |  |                  |                       |  |          |                        |     |
|        | •  | •         | SCHE  | ME OF STUD   | IES              |                       |  |          |                        |     |
| S.No   | Learning Co  | ontent    | Tecching  | ching Description  |                  | T-L Teac              |  | LRs      |                        | Rem |
|        |  |           | Learning  | Pro  | cess             | h.                    | /Tut   | Req      | uired                  | a   |
|        |  |           | Method  |  |                  | Hrs                   | Hrs.   |          |                        | rks |
| 1      | Demonstrate operati<br>such as Turning, T<br>Thread cutting etc. |           | Traditional<br>teaching +ppt<br>Workshop<br>Visit       | Teacher will contents us duster board Workshop Indemonstrate Lathe m/c is so that Sexplain demonstrate operations. | 4                | 6                     | Soft/hard<br>copy of ppt<br>+books/<br>Workshop<br>visit |          |                        |     |
|        |  |           |   | OF ASSESSI   | MENT             |                       |  |          |                        |     |
| SNo    | Method of<br>Assessment  | Ι         | Description of Ass                                      | sessment   | Maximum<br>Marks | Resources<br>Required |  |          | External /<br>Internal |     |
| 1      | Paper pen test/<br>Laboratory Assesmo                            | ent Stude | he given learr<br>nts write answer<br>ce practial Viva. | •  | 10               | pape                  | ressive Te<br>r/ Practica<br>semester e                  | ıl file/ | file/ /External        |     |
|        | of Practical:  Idy and practice of dif                           |           | operations e.g. T                                       |  |                  |                       |  |          | •                      |     |

Course

CO

LO

Format

SCHEME FOR LEARNING Branch

# CO3:LO2

| RGPV (Diploma Wing)<br>Bhopal |   | SCHEME FOR LEARNING<br>OUTCOME  |   | Branch<br>Code<br>P05   | Course<br>Code<br>402  |   | CO<br>Code<br>03       | Code Code                               |                      | Format<br>No.<br>4 |  |
|-------------------------------|---|---|---|---|--|---|------------------------|---|----------------------|--------------------|--|
| Course Name PRODUC            |   |   | TION TECHNOLOGY - 1   |   |  |   |                        |   |                      |                    |  |
| CO De                         | scription   |   | about different Mad   |   | ations.  |   |                        |   |                      |                    |  |
|                               | scription   |   | and operate Milling   |   |  | e   |                        |   |                      |                    |  |
|                               | •   |   |   | ME OF STUD  |  |   |                        |   |                      |                    |  |
| S.No                          | S.No Learning Content   |   | Tecching<br>Learning<br>Method                                  | Description of T-L<br>Process   |  | Teach<br>Hrs  | Pract.<br>/Tut<br>Hrs. | LRs<br>Required                         |                      | Re<br>ma<br>rks    |  |
| 1                             | milling machine: like up and dow Indexing on millin to cut gears.  Demonstrate open | 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 |   | contents of duster board Workshop In demonstrate Lathe m/c so that Sexplain and | l explain the using chak and ppt. and nstructor will working of in workshop student will nd operate Drilling & thine | 4   | 6                      | Soft/har<br>of ppt +<br>Worksh<br>visit | books/               |                    |  |
|                               |   |   | SCHEME  | OF ASSESS   | MENT   |   |                        |   |                      |                    |  |
| SNo                           | Method of<br>Assessment   |   | Description of Ass  | sessment  | Maximum Resources<br>Marks Required  |   |                        | External /<br>Internal                  |                      |                    |  |
| 1                             | Paper pen test/ Labo<br>Assesment   | St  | or the given learni<br>tudents write a<br>nestions and face pra | nswer of  | 10   | Progressive Test paper/<br>Practical file/ End<br>semester exam |                        |   | Internal<br>/Externa |                    |  |
| 1 1                           | f Practical: dy and practice of dif   |   | of operations on Mil  |   |  | /c.   |                        |   |                      |                    |  |

# CO3:LO3

| \ 1       |  | SCHEME FOR LEARNING |                       | Branch                                     |          | Cours                                       | _                     | CO               | LO                     | Format   |          |
|-----------|--|---------------------|-----------------------|--|----------|---|-----------------------|------------------|------------------------|----------|----------|
| Bhopal OU |  | OUTCOM              | Е                     | Code<br>P05                                |          | Code<br>402                                 |                       | Code<br>03       | Code<br>03             |          | lo.<br>4 |
| Course    | Name                                   | PRODUCT             | ΓΙΟΝ ΤΕCHNOLO         | GY - 1                                     |          |   |                       | !                |                        |          |          |
| CO Des    | scription                              | To know             | about different Ma    | chining opera                              | ations.  |   |                       |                  |                        |          |          |
| LO Des    | scription                              | To explain          | and operate shaper    | and planer M/                              | 'C       |   |                       |                  |                        |          |          |
|           |  |                     | SCHE                  | ME OF STUD                                 | IES      |   |                       |                  |                        |          |          |
| S.No      | Learning Content                       |                     | Teaching              | Description of                             | of T-L   |   | Teach                 | Pract.           | LRs                    |          | Re       |
|           |  |                     | Learning              | Process                                    |          |   |                       | /Tut             | Required               |          | ma       |
|           |  |                     | Method                |  |          | Hrs   |                       | Hrs.             |                        |          | rks      |
| 1         |  | rking of            | Traditional           | Teacher will explain                       |          |   | 4                     | 6                | Soft/hard cop          |          |          |
|           | shaper, Quick                          | Return              | teaching +ppt         | contents using chak                        |          |   |                       |                  | of ppt +books/         |          |          |
|           | Mechanism, Slot o                      | cutting and         | Workshop Visit        | duster board and ppt.                      |          |   |                       |                  | Worksho                | P        |          |
|           | making a keyway.                       |                     |                       | Workshop Ir                                |          |   |                       | visit            |                        | ĺ        |          |
|           | Demonstrate Wo                         | rking of            |                       | demonstrate working<br>Lathe m/c in worksl |          |   |                       |                  |                        |          |          |
|           | slotter.                               | ikilig of           |                       | so that Student                            |          |   |                       |                  |                        |          |          |
|           | Siotter.                               |                     |                       |  | id ope   |   |                       |                  |                        |          |          |
|           | Demonstrate the v                      | vorking of          |                       | shaper and planer N                        |          |   |                       |                  |                        |          |          |
|           | planer.                                |                     | SCHEME                | OF ASSESSI                                 | MENIT    |   |                       |                  |                        |          | <u> </u> |
| SNo       | Method of                              |                     |                       |  | VIEIVI   | Max   | imu                   | Dacous           | 7000                   | Evto     | rnal /   |
| 3110      | Assessment                             | 1                   |                       | Assessment Maximu m                        |          | -   | Resources<br>Required |                  | External /<br>Internal |          |          |
|           | 7 tosessinene                          |                     |                       |  |          |   | rks                   | Required         |                        | Internal |          |
| 1         | Paper pen test/ Labo                   |                     | •                     | ren learning content, Students             |          |   |                       | Progressive Test |                        | Internal |          |
|           | Assesment write answer of questi Viva. |                     | ons and face practial |  | 1 *      | paper/ Practical file/<br>End semester exam |                       | /External        |                        |          |          |
|           | f Practical:<br>dy and practice of dif | ferent types        | of operations on Sha  | aper, slotter an                           | ıd Plane | r M/c.                                      |                       |                  |                        |          |          |
|           |  | ADD                 | ITIONAL INSTRU        | CTIONS FOR                                 | THE H    | OD/ F                                       | ACULT                 | Y (IF ANY        | Y)                     |          |          |

# CO4:LO1

| RGPV (Diploma Wing)<br>Bhopal |   | SCHEME FOR LEARNING<br>OUTCOME  |   | Brancl<br>Code<br>P05   | C   | Course<br>Code<br>402                       |                        | LO I<br>Code<br>01                     |                        | rmat<br>No.<br>4 |  |
|-------------------------------|---|---|---|---|---|---|------------------------|--|------------------------|------------------|--|
|                               | e Name<br>escription  |   | TION TECHNOLO   |   | nd foundation   | 1   |                        |  |                        |                  |  |
| LO Description                |   | Explain ge  | Explain general requirements of machine foundation and M/c shop layout. |   |   |   |                        |  |                        |                  |  |
|                               | •   |   | SCHEN   | ME OF ST  | UDIES   |   |                        |  |                        |                  |  |
| S.<br>No                      | Learning Content  |   | Tecching<br>Learning<br>Method  | Description Process   | on of T-L   | Teach<br>Hrs                                | Pract.<br>/Tut<br>Hrs. | LRs<br>Require                         | d                      | Re<br>ma<br>rks  |  |
| 1                             | General requirements of Machine foundation and M/c shop layout.  Traditional teaching +ppt Workshop Visit |   |   | contents duster Workshop demonstr foundatio Student general r machine | board a p Instructor w ate M on so th will expla requirements | ak<br>nd<br>rill<br>1/c<br>nat<br>iin<br>of | 02                     | Notes/<br>handout<br>books+<br>worksho |                        |                  |  |
|                               |   |   | SCHEME  |   |   |   |                        |  |                        |                  |  |
| SNo                           | Method of<br>Assessment   | D   | escription of Assess  | ment  | Maximum<br>Marks  | Resources<br>Required                       |                        |  | External /<br>Internal |                  |  |
| 1                             | Paper pen test/ Laboratory Assesme  | For the given learning constitution Students write answer questions and face practial Viv |   |   | 05  |   |                        |  | iternal<br>External    | l                |  |
|                               | of practical<br>cudy the general require<br>ADDITIONAL  |   | /c foundation.  | OD/ FACU  | JLTY (IF AN   | Y)  |                        |  |                        |                  |  |

# CO4:LO2

|        |  |                       | SCHEME FOR LEARNING<br>OUTCOME   |  | Course<br>Code<br>402 |   | CO<br>Code<br>04 | LO<br>Code<br>02                          | Format<br>No.<br>4 |  |  |
|--------|--|-----------------------|--|--|-----------------------|---|------------------|---|--------------------|--|--|
| Course | Name   | PRODUCT               | ΓΙΟΝ TECHNOLO  | GY - 1   |                       |   |                  |   |                    |  |  |
| CO De  | scription  |                       | nd prepare machine layout and foundation                                   |  |                       |   |                  |   |                    |  |  |
| LO Des | scription  | Plan and p            | repare Machine shop  | lavout.  |                       |   |                  |   |                    |  |  |
|        |  |                       |  | 1E OF STUI   | DIES                  |   |                  |   |                    |  |  |
| S.No   | Learning Content   |                       | Tecching   | Description  | of T-L                | Teach   | Pract.           | LRs                                       | Re                 |  |  |
|        |  |                       | Learning   | Process  |                       |   | /Tut             | Required                                  | ma                 |  |  |
|        |  |                       | Method   |  |                       | Hrs   | Hrs.             |   | rks                |  |  |
| 1      | Design of layout of machines in machine shop keeping in mind space, light, air circulation and future expansion. |                       | Traditional teaching +ppt Workshop Visit  SCHEME                           | Teacher will explain the contents using chak duster board and Workshop Instructor will demonstrate M/c foundation so that Student will Plan and prepare Machine shop layout. |                       | 03  | 02               | Notes/<br>handouts+<br>books+<br>workshop |                    |  |  |
| SNo    | Method of  |                       |  |  | MEN I<br>Maximum      | December  | 100              | Extern                                    | al /               |  |  |
| 5110   | Assessment   | Description of Assess |  | ssment   | Marks                 | Resources<br>Required   |                  |   | ai /<br>nternal    |  |  |
| 1      | Paper pen test/<br>Laboratory Assesme  | ent Stu               | For the given learning<br>Students write ans<br>questions and face practic |  | 05                    | Progressive Test<br>paper/ Practical file/<br>End semester exam |                  |   |                    |  |  |
| 1 1    | f practical<br>plan and prepare M/c  | shop Layou            | t.   |  |                       |   |                  |   |                    |  |  |

### Reference:

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