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**University**

**Subject Teaching & Examination Scheme**

Diploma in Chemical Engineering (2022-23)

**Semester - 1**

|          |                                                 |              |           |           |          | Internal Marks |     |     | External Marks |   | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|-------------------------------------------------|--------------|-----------|-----------|----------|----------------|-----|-----|----------------|---|--------------------------------|------------------------------|-------------|
| Code     | Subject                                         | Credit       | Lect      | Lab       | Tut      | T              | P   | CE  | T              | P | Int. + Ext.                    | Int. + Ext.                  |             |
| 03602107 | Applied Chemistry                               | 3.00         | 3         | -         | -        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03602108 | Applied Chemistry Lab                           | 1.00         | -         | 2         | -        | -              | 50  | -   | -              | - | -                              | 20                           | 50          |
| 03602110 | Physical Analytical and Inorganic Chemistry Lab | 1.00         | -         | 2         | -        | -              | 50  | -   | -              | - | -                              | 20                           | 50          |
| 03602111 | Physical Analytical And Inorganic Chemistry     | 3.00         | 3         | -         | -        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03605101 | Environmental Science                           | 0.00         | 2         | -         | -        | 20             | -   | 20  | -              | - | 16                             | -                            | 40          |
| 03606102 | Introduction to IT Systems Lab                  | 2.00         | -         | 4         | -        | -              | 100 | -   | -              | - | -                              | 40                           | 100         |
| 03609101 | Engineering Graphics                            | 1.00         | 1         | -         | -        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03609102 | Engineering Graphics Lab                        | 2.00         | -         | 4         | -        | -              | 100 | -   | -              | - | -                              | 40                           | 100         |
| 03691101 | Mathematics - I                                 | 3.00         | 2         | -         | 1        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03693103 | Communication Skills - I                        | 1.00         | 1         | -         | -        | -              | -   | 100 | -              | - | 40                             | -                            | 100         |
|          | <b>Total</b>                                    | <b>17.00</b> | <b>12</b> | <b>12</b> | <b>1</b> |                |     |     |                |   |                                |                              | <b>840</b>  |

**Lect** - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical  
**Theory Passing % : 40 Practical Passing % : 40**



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**Subject Teaching & Examination Scheme**

Diploma in Chemical Engineering (2022-23)

**Semester - 2**

|          |                                      |              |           |          |          | Internal Marks |     |     | External Marks |   | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|--------------------------------------|--------------|-----------|----------|----------|----------------|-----|-----|----------------|---|--------------------------------|------------------------------|-------------|
| Code     | Subject                              | Credit       | Lect      | Lab      | Tut      | T              | P   | CE  | T              | P | Int. + Ext.                    | Int. + Ext.                  |             |
| 03602152 | Organic Chemistry lab                | 1.00         | -         | 2        | -        | -              | 50  | -   | -              | - | -                              | 20                           | 50          |
| 03602153 | Introduction to Chemical Engineering | 2.00         | 2         | -        | -        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03602155 | Organic Chemistry                    | 4.00         | 4         | -        | -        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03609154 | Engineering Workshop Practice        | 2.00         | -         | 4        | -        | -              | 100 | -   | -              | - | -                              | 40                           | 100         |
| 03691151 | Mathematics-II                       | 4.00         | 3         | -        | 1        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03692103 | Applied Physics                      | 3.00         | 3         | -        | -        | 20             | -   | 20  | 60             | - | 40                             | -                            | 100         |
| 03692104 | Applied Physics Lab                  | 1.00         | -         | 2        | -        | -              | 50  | -   | -              | - | -                              | 20                           | 50          |
| 03693153 | Communication Skills - II            | 1.00         | 1         | -        | -        | -              | -   | 100 | -              | - | 40                             | -                            | 100         |
|          | <b>Total</b>                         | <b>18.00</b> | <b>13</b> | <b>8</b> | <b>1</b> |                |     |     |                |   |                                |                              | <b>700</b>  |

**Lect** - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical  
**Theory Passing % : 40 Practical Passing % : 40**



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Diploma in Chemical Engineering (2022-23)

**Semester - 3**

|          |                                                  |              |           |          |          | Internal Marks |    |     | External Marks |   | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|--------------------------------------------------|--------------|-----------|----------|----------|----------------|----|-----|----------------|---|--------------------------------|------------------------------|-------------|
| Code     | Subject                                          | Credit       | Lect      | Lab      | Tut      | T              | P  | CE  | T              | P | Int. + Ext.                    | Int. + Ext.                  |             |
| 03600201 | Entrepreneurship and Start-ups                   | 1.00         | 1         | -        | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602208 | Mechanical Operations Lab                        | 1.00         | -         | 2        | -        | -              | 50 | -   | -              | - | -                              | 20                           | 50          |
| 03602210 | Fluid Flow Operation Lab                         | 1.00         | -         | 2        | -        | -              | 50 | -   | -              | - | -                              | 20                           | 50          |
| 03602215 | Chemical Engineering Materials                   | 3.00         | 3         | -        | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602217 | Chemical Technology -I                           | 3.00         | 3         | -        | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602219 | Fluid Flow Operation                             | 3.00         | 3         | -        | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602221 | Mechanical Operations                            | 3.00         | 3         | -        | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602223 | Chemical Process Calculation                     | 4.00         | 3         | -        | 1        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03693203 | Professional Communication and Critical Thinking | 1.00         | 1         | -        | -        | -              | -  | 100 | -              | - | 40                             | -                            | 100         |
|          | <b>Total</b>                                     | <b>20.00</b> | <b>17</b> | <b>4</b> | <b>1</b> |                |    |     |                |   |                                |                              | <b>800</b>  |

**Lect** - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical  
**Theory Passing % : 40 Practical Passing % : 40**



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**Subject Teaching & Examination Scheme**  
Diploma in Chemical Engineering (2022-23)

**Semester - 4**

|          |                                              |              |           |           |          | Internal Marks |    |     | External Marks |   | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|----------------------------------------------|--------------|-----------|-----------|----------|----------------|----|-----|----------------|---|--------------------------------|------------------------------|-------------|
| Code     | Subject                                      | Credit       | Lect      | Lab       | Tut      | T              | P  | CE  | T              | P | Int. + Ext.                    | Int. + Ext.                  |             |
| 03600251 | Essence of Indian Knowledge and Tradition    | 0.00         | 2         | -         | -        | 20             | -  | 20  | -              | - | 16                             | -                            | 40          |
| 03602264 | Process Heat Transfer Lab                    | 1.00         | -         | 2         | -        | -              | 50 | -   | -              | - | -                              | 20                           | 50          |
| 03602266 | Mass Transfer - I Lab                        | 1.00         | -         | 2         | -        | -              | 50 | -   | -              | - | -                              | 20                           | 50          |
| 03602267 | Pollution Control and Effluent treatment     | 3.00         | 3         | -         | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602268 | Pollution Control and Effluent treatment Lab | 1.00         | -         | 2         | -        | -              | 50 | -   | -              | - | -                              | 20                           | 50          |
| 03602269 | Safety in Chemical Process Industry          | 3.00         | 3         | -         | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602270 | Minor Project                                | 1.00         | -         | 2         | -        | -              | 50 | -   | -              | - | -                              | 20                           | 50          |
| 03602272 | Chemical Technology -II lab                  | 1.00         | -         | 2         | -        | -              | 50 | -   | -              | - | -                              | 20                           | 50          |
| 03602273 | Chemical Technology -II                      | 4.00         | 4         | -         | -        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602277 | Mass Transfer - I                            | 4.00         | 3         | -         | 1        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03602279 | Process Heat Transfer                        | 4.00         | 3         | -         | 1        | 20             | -  | 20  | 60             | - | 40                             | -                            | 100         |
| 03693251 | Employability Skills                         | 1.00         | 1         | -         | -        | -              | -  | 100 | -              | - | 40                             | -                            | 100         |
|          | <b>Total</b>                                 | <b>24.00</b> | <b>19</b> | <b>10</b> | <b>2</b> |                |    |     |                |   |                                |                              | <b>890</b>  |

**Lect** - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical  
**Theory Passing % : 40 Practical Passing % : 40**



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### Semester - 5

|          |                                                     |              |           |           |          | Internal Marks |     |    | External Marks |    | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|-----------------------------------------------------|--------------|-----------|-----------|----------|----------------|-----|----|----------------|----|--------------------------------|------------------------------|-------------|
| Code     | Subject                                             | Credit       | Lect      | Lab       | Tut      | T              | P   | CE | T              | P  | Int. + Ext.                    | Int. + Ext.                  |             |
| 03602308 | Mass Transfer - II Lab                              | 1.00         | -         | 2         | -        | -              | 30  | -  | -              | 20 | -                              | 20                           | 50          |
| 03602310 | Petroleum Refining and Petrochemical Technology Lab | 1.00         | -         | 2         | -        | -              | 30  | -  | -              | 20 | -                              | 20                           | 50          |
| 03602325 | Utilities and Instrumentation Control               | 3.00         | 3         | -         | -        | 20             | -   | 20 | 60             | -  | 40                             | -                            | 100         |
| 03602312 | Utilities and Instrumentation Control Lab           | 1.00         | -         | 2         | -        | -              | 30  | -  | -              | 20 | -                              | 20                           | 50          |
| 03602314 | Summer Internship                                   | 2.00         | -         | -         | -        | -              | 100 | -  | -              | -  | -                              | 40                           | 100         |
| 03602316 | Major Project - I                                   | 4.00         | -         | 8         | -        | -              | 60  | -  | -              | 40 | -                              | 40                           | 100         |
| 03602317 | Engineering Thermodynamics                          | 3.00         | 3         | -         | -        | 20             | -   | 20 | 60             | -  | 40                             | -                            | 100         |
| 03602323 | Mass Transfer - II                                  | 3.00         | 3         | -         | -        | 20             | -   | 20 | 60             | -  | 40                             | -                            | 100         |
| 03602321 | Petroleum Refining and Petrochemical Technology     | 3.00         | 3         | -         | -        | 20             | -   | 20 | 60             | -  | 40                             | -                            | 100         |
|          | Program Elective - I (Compulsory Subjects :1)       | 3.00         | 3         | -         | -        | 40             | -   | -  | 60             | -  | -                              | -                            | 100         |
|          | <b>Total</b>                                        | <b>24.00</b> | <b>15</b> | <b>14</b> | <b>-</b> |                |     |    |                |    |                                |                              | <b>850</b>  |

### Semester - 5 Program Elective - I

|          |                                 |        |      |     |     | Internal Marks |   |    | External Marks |   | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|---------------------------------|--------|------|-----|-----|----------------|---|----|----------------|---|--------------------------------|------------------------------|-------------|
| Code     | Subject                         | Credit | Lect | Lab | Tut | T              | P | CE | T              | P | Int. + Ext.                    | Int. + Ext.                  |             |
| 03602331 | Polymer Science And Compounding | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |
| 03602333 | Polymer Technology              | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |

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**Theory Passing % : 40 Practical Passing % : 40**



**Semester - 6**

|          |                                                |              |           |           |          | Internal Marks |    |    | External Marks |    | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|------------------------------------------------|--------------|-----------|-----------|----------|----------------|----|----|----------------|----|--------------------------------|------------------------------|-------------|
| Code     | Subject                                        | Credit       | Lect      | Lab       | Tut      | T              | P  | CE | T              | P  | Int. + Ext.                    | Int. + Ext.                  |             |
| 03600351 | Indian Constitution                            | 0.00         | 2         | -         | -        | 20             | -  | 20 | -              | -  | 16                             | -                            | 40          |
| 03602360 | Chemical Reaction Engineering Lab              | 1.00         | -         | 2         | -        | -              | 30 | -  | -              | 20 | -                              | 20                           | 50          |
| 03602361 | Chemical Engineering Plant Economics           | 4.00         | 3         | -         | 1        | 20             | -  | 20 | 60             | -  | 40                             | -                            | 100         |
| 03602362 | Major Project -II                              | 4.00         | -         | 8         | -        | -              | 60 | -  | -              | 40 | -                              | 40                           | 100         |
| 03602365 | Chemical Reaction Engineering                  | 5.00         | 4         | -         | 1        | 20             | -  | 20 | 60             | -  | 40                             | -                            | 100         |
| 03602367 | Chemical Engineering Thermodynamics            | 4.00         | 3         | -         | 1        | 20             | -  | 20 | 60             | -  | 40                             | -                            | 100         |
|          | Open Elective-I (Compulsory Subjects :1)       | 3.00         | 3         | -         | -        | 40             | -  | -  | 60             | -  | -                              | -                            | 100         |
|          | Program Elective - II (Compulsory Subjects :1) | 3.00         | 3         | -         | -        | 40             | -  | -  | 60             | -  | -                              | -                            | 100         |
|          | <b>Total</b>                                   | <b>24.00</b> | <b>18</b> | <b>10</b> | <b>3</b> |                |    |    |                |    |                                |                              | <b>690</b>  |

**Semester - 6 Open Elective-I**

|          |                               |        |      |     |     | Internal Marks |   |    | External Marks |   | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|-------------------------------|--------|------|-----|-----|----------------|---|----|----------------|---|--------------------------------|------------------------------|-------------|
| Code     | Subject                       | Credit | Lect | Lab | Tut | T              | P | CE | T              | P | Int. + Ext.                    | Int. + Ext.                  |             |
| 03600381 | Industrial Management         | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |
| 03600383 | Project Management            | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |
| 03607343 | Energy Conservation and Audit | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |



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**Semester - 6 Program Elective - II**

|          |                                                     |        |      |     |     | Internal Marks |   |    | External Marks |   | Passing Marks<br>(Theory + CE) | Passing Marks<br>(Practical) | Total Marks |
|----------|-----------------------------------------------------|--------|------|-----|-----|----------------|---|----|----------------|---|--------------------------------|------------------------------|-------------|
| Code     | Subject                                             | Credit | Lect | Lab | Tut | T              | P | CE | T              | P | Int. + Ext.                    | Int. + Ext.                  |             |
| 03602383 | Modern Separation Techniques                        | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |
| 03602387 | Pharmaceutical Technology                           | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |
| 03602389 | Rubber Processing Technology And Tyre Manufacturing | 3.00   | 3    | -   | -   | 20             | - | 20 | 60             | - | 40                             | -                            | 100         |

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**Theory Passing % : 40 Practical Passing % : 40**