## **THIRD SEMESTER (Chemical Engineering)**

| Sr. No | Sr. No Subject                                      |        | STUDY             |        | EVALUATION SCHEME |                                      |               |        |               |       |      |
|--------|---|--------|-------------------|--------|-------------------|--------------------------------------|---------------|--------|---------------|-------|------|
|        | ·   | SCHEME |                   |        | emal<br>ssment    | External Assessment<br>(Examination) |               |        |               | Marks |      |
|        |   |        |                   | Theory | Practical         | Written                              | Paper         | Practi | cal           |       |      |
|        |   | L      | Hrs/week<br>L T P |        | Max.<br>Marks     | Max.<br>Marks                        | Max.<br>Marks | Hrs    | Max.<br>Marks | Hrs   |      |
| 3.1 *  | Fluid Flow  | 4      | -                 | 3      | 25                | 25                                   | 100           | 3      | 50            | 3     | 200  |
| 3.2 ** | Mechanical Operations                               | 3      | _                 | 3      | 25                | 25                                   | 100           | 3      | 50            | 3     | 200  |
| 3.3 ** | Chemical Process Calculations                       | 4      | -                 | -      | 25                | -                                    | 100           | 3      | -             | -     | 125  |
| 3.4    | Engineering Materials                               | 4      | -                 | -      | 25                | -                                    | 100           | 3      | -             | -     | 125  |
| 3.5    | Heat Transfer-I                                     | 4      | -                 | 3      | 25                | 25                                   | 100           | 3      | 50            | 3     | 200  |
| 3.6    | Basics of Electrical and<br>Electronics Engineering | 4      | -                 | 3      | 25                | 25                                   | 100           | 3      | 50            | 3     | 200  |
|        | SCA   | -      | -                 | 5      | -                 | 25                                   | -             | -      | -             | -     | 25   |
|        |   | -      | -                 | -      | -                 | -                                    | -             | -      | -             | -     | -    |
|        | Total   | 23     | -                 | 17     | 150               | 125                                  | 600           | -      | 200           | -     | 1075 |

<sup>\*\*</sup> Common with Diploma Programme in Chemical Engineering (Pulp and Paper)

<sup>#</sup> Student Centred Activities will comprise of co-curricular activities like extension lectures, library studies, games, hobby clubs e.g. photography, painting, singing, seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, Civil Defence/Disaster Management activities etc.

## **FOURTH SEMESTER (Chemical Engineering)**

| Sr. No | Sr. No Subject                      |                   | STUDY |                        | EVALUATION SCHEME |                                      |       |               |     |       |      |
|--------|-------------------------------------|-------------------|-------|------------------------|-------------------|--------------------------------------|-------|---------------|-----|-------|------|
|        | ·                                   | SCHEME            |       | Internal<br>Assessment |                   | External Assessment<br>(Examination) |       |               |     | Marks |      |
|        |                                     |                   |       | Theory                 | Practical         | Written                              | Paper | Practi        | cal |       |      |
|        |                                     | Hrs/week<br>L T P |       | Max.<br>Marks          | Max.<br>Marks     | Max.<br>Marks                        | Hrs   | Max.<br>Marks | Hrs |       |      |
| 4.1    | Mass Transfer-I                     | 4                 | -     | 3                      | 25                | 25                                   | 100   | 3             | 50  | 3     | 200  |
| 4.2 ** | Chemical Engineering Thermodynamics | 4                 | -     | -                      | 25                | -                                    | 100   | 3             | -   | -     | 125  |
| 4.3    | Heat Transfer-II                    | 4                 | _     | 3                      | 25                | 25                                   | 100   | 3             | 50  | 3     | 200  |
| 4.4 ** | Chemical Process Industries         | 4                 | -     | 3                      | 25                | 25                                   | 100   | 3             | 50  | 3     | 200  |
| 4.5    | Polymer Technology                  | 4                 | -     | -                      | 25                | -                                    | 100   | 3             | -   | -     | 125  |
| 4.6    | Energy Technology                   | 4                 | _     | -                      | 25                | -                                    | 100   | 3             | -   | -     | 125  |
|        | SCA                                 | -                 | _     | 7                      | -                 | 25                                   | -     | -             | -   | -     | 25   |
| Total  |                                     | 24                | -     | 16                     | 150               | 100                                  | 600   | -             | 150 | -     | 1000 |

<sup>\*\*</sup> Common with Diploma Programme in Chemical Engineering (Pulp and Paper)

# Student Centred Activities will comprise of co-curricular activities like extension lectures, library studies, games, hobby clubs e.g. photography, painting, singing, seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, Civil Defence/Disaster Management activities etc.

**Industrial Training** - After examination of 4<sup>th</sup> Semester, the students shall go for training in a relevant industry/field organization for a minimum period of one month and shall prepare a diary. It shall be evaluated during 5<sup>th</sup> semester by his/her teacher for 50 marks. The students shall also prepare a report at the end of training and shall present it in a seminar, which will be evaluated for another 50 marks. This evaluation will be done by HOD and lecturer incharge – training in the presence of one representative from training organization.

## **FIFTH SEMESTER (Chemical Engineering)**

| Sr. No | Subject                                       | STUDY             |   | EVALUATION SCHEME      |               |                                      |               |       |               |       |      |
|--------|---|-------------------|---|------------------------|---------------|--------------------------------------|---------------|-------|---------------|-------|------|
|        |   | SCHEME            |   | Internal<br>Assessment |               | External Assessment<br>(Examination) |               |       |               | Marks |      |
|        |   |                   |   |                        | Theory        | Practical                            | Written       | Paper | Practi        | cal   |      |
|        |   | Hrs/week<br>L T P |   |                        | Max.<br>Marks | Max.<br>Marks                        | Max.<br>Marks | Hrs   | Max.<br>Marks | Hrs   |      |
|        | Industrial Training                           | 1                 | - | -                      | -             | 50                                   | -             | -     | 50            | -     | 100  |
| 5.1 *  | Employability Skills I                        | 1                 | - | 2                      | -             | 25                                   | -             | -     | 50            | -     | 75   |
| 5.2 *  | Environmental Education                       | 3                 | - | -                      | 25            | ı                                    | 100           | 3     | -             | -     | 125  |
| 5.3 ** | Chemical Reaction Engineering                 | 4                 | - | -                      | 25            | -                                    | 100           | 3     | -             | -     | 200  |
| 5.4    | Mass Transfer-II                              | 4                 | - | 3                      | 25            | 25                                   | 100           | 3     | 50            | 3     | 125  |
| 5.5    | Petroleum and Petrochemical<br>Technology     | 4                 | - | 3                      | 25            | 25                                   | 100           | 3     | 50            | 3     | 200  |
| 5.6 ** | Computer Applications in<br>Chemical Industry | -                 | - | 6                      | -             | 50                                   | -             | -     | 100           | 3     | 150  |
| 5.7    | Plant Safety                                  | 3                 | - | -                      | 25            | -                                    | 100           | 3     | -             | -     | 125  |
| SCA    |   | -                 | - | 8                      | -             | 25                                   | -             | -     | -             | -     | 25   |
| Total  |   | 18                | - | 22                     | 125           | 200                                  | 500           | -     | 300           | -     | 1125 |

<sup>\*</sup> Common with other Diploma Programmes

<sup>\*\*</sup> Common with Diploma Programme in Chemical Engineering (Pulp and Paper)

<sup>#</sup> Student Centred Activities will comprise of co-curricular activities like extension lectures, library studies, games, hobby clubs e.g. photography, painting, singing, seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, Civil Defence/Disaster Management activities etc.

## **SIXTH SEMESTER (Chemical Engineering)**

| Sr. No | Subject   | STUDY                 |   |                        | EVALUATION SCHEME |                                      |               |               |     |       |      |
|--------|---|-----------------------|---|------------------------|-------------------|--------------------------------------|---------------|---------------|-----|-------|------|
|        | ,   | SCHEME Hrs/week L T P |   | Internal<br>Assessment |                   | External Assessment<br>(Examination) |               |               |     | Marks |      |
|        |   |                       |   | Theory                 | Practical         | Written                              | Written Paper |               | cal |       |      |
|        |   |                       |   | Max.<br>Marks          | Max.<br>Marks     | Max.<br>Marks                        | Hrs           | Max.<br>Marks | Hrs |       |      |
| 6.1 *  | Employability Skills-II                           | -                     | - | 2                      | -                 | 25                                   | -             | -             | 50  | 3     | 75   |
| 6.2 *  | Management and<br>Entrepreneurship Development    | 3                     | - | -                      | 25                | -                                    | 100           | 3             | -   | -     | 125  |
| 6.3 ** | Process Plant Utilities                           | 4                     | - | -                      | 25                | -                                    | 100           | 3             | -   | -     | 125  |
| 6.4 ** | Process Instrumentation and<br>Control            | 4                     | - | 3                      | 25                | 25                                   | 100           | 3             | 50  | 3     | 200  |
| 6.5 ** | Pollution Control in Chemical<br>Process Industry | 4                     | - | 3                      | 25                | 25                                   | 100           | 3             | 50  | 3     | 200  |
| 6.6    | Paint Technology                                  | 4                     | _ | -                      | 25                | -                                    | 100           | 3             | -   | -     | 125  |
| 6.7    | Major Project Work                                | -                     | _ | 8                      | -                 | 50                                   | -             | -             | 100 | 3     | 150  |
|        | SCA   | -                     | _ | 5                      | -                 | 25                                   | -             | -             |     | _     | 25   |
|        | Total   | 19                    | - | 21                     | 125               | 150                                  | 500           | -             | 250 | -     | 1025 |

<sup>\*</sup> Common with other Diploma Programmes

<sup>\*\*</sup> Common with Diploma Programme in Chemical Engineering (Pulp and Paper)

<sup>+</sup> Includes 25 marks for Viva-voce

<sup>#</sup> Student Centred Activities will comprise of co-curricular activities like extension lectures, library studies, games, hobby clubs e.g. photography, painting, singing, seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, Civil Defence/Disaster Management activities etc.