

The final certification and acceptance of TW ensures the satisfactory performance of laboratory work and minimum passing in the TW.

| Course Code | Course Name             | Teaching Scheme (Contact Hours) |        |      | Credits Assigned |                         |           |              |       |
|-------------|-------------------------|---------------------------------|--------|------|------------------|-------------------------|-----------|--------------|-------|
|             |                         | Theory                          | Pract. | Tut. | Theory           | Tut.                    | Pract.    | Total        |       |
| FEL102      | Engineering Chemistry-I | -                               | 01     | -    | -                | -                       | 0.5       | 0.5          |       |
| Course Code | Course Name             | Examination Scheme              |        |      |                  |                         |           |              |       |
|             |                         | Theory                          |        |      |                  |                         | Term Work | Pract. /oral | Total |
|             |                         | Internal Assessment             |        |      | End Sem. Exam.   | Exam. Duration (in Hrs) |           |              |       |
|             |                         | Test1                           | Test 2 | Avg. |                  |                         |           |              |       |
| FEL102      | Engineering Chemistry-I | --                              | --     | --   | --               | --                      | 25        | --           | 25    |

**Outcomes:** Learners will be able to...

1. Determine Chloride content and hardness of water sample
2. Determine free acid ph of different solutions
3. Determine metal ion concentration
4. Synthesize polymers, biodegradable plastics.
5. Determine Viscosity of oil

### Suggested Experiments:

1. To determine Chloride content of water by Mohr's Method.
2. To determine total, temporary and permanent hardness of water sample by EDTA method.
3. To determine free acid pH of different solutions using pH meter
4. To determine metal ion concentration using colorimeter.
5. Removal of hardness using ion exchange column.
6. Molecular weight determination of polymers by Oswald Viscometer.
7. Synthesis of UF, PF, Nylon 66.
8. Determination of COD
9. Synthesis of biodegradable polymer using corn starch or potato starch
10. Determination of Viscosity of oil by Redwood Viscometer

### Term work:

Term Work shall consist of minimum five experiments.

The distribution of marks for term work shall be as follows:

- Laboratory work (Experiments and Journal) : **10 marks**
- Assignments and Viva on practicals : **10 marks**
- Attendance (Theory and Tutorial) : **05 marks**

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