# VEER NARMAD SOUTH GUJARAT UNIVERSITY

**B. E. III (TEXTILE PROCESSING) Semester - VI**
**TP - 602, TECHNOLOGY OF DYEING - II**

| Teaching Scheme (No. Of Contact hr.) | | | Theory Exam | | Practical/Quiz/Viva Exam | | Grand Total |
|---|---|---|---|---|---|---|---|
| | | | Duration (hr.) | Marks | Sem. End Exam | Cont. Int. Evaluation | |
| Theory | Tut. | Pract. | | | | | |
| 3 | 1 | 2 | 3 | 100 | 30 | 20 | 150 |

**Theory**

1. Materials used for construction of dyeing machines
2. **Machines Used For Fabric Dyeing :**
   a. Padding Mangles
   b. Continuous Dyeing Machine
   c. Machine used for dye fixation e.g. Hot flue.
3. Application, mechanism & properties of Vat, Indigosol, Sulphur, Azoic, Reactive & Pigment Dyes. After treatments of Sulphur, Azoic & Reactive Dyes.
4. **Development in Dyeing Such as :**
   a. Solvent Dyeing
   b. Space Dyeing
   c. Foam Dyeing
5. Faults in dyeing, Their rectification & prevention in above dyeing methods.
6. Sizing & Dyeing of yarn for Denim Fabrics, Finishing of Denim Fabrics.
7. Nature Of Dye: Vander Walls Force, H-bonding, ionic and covalent bonds
8. **Theory of Dyeing**
   Purification of dyes, Methods of estimation of dye on fibre and in solution, Study of Heat of dyeing using various dye-fibre system such as Direct, Vat, Reactive Dyes on Cellulose, Acid Dyes on Nylon, Wool & Silk, Cationic Dyes on CDPET and Acrylics, Study the affinity of dyes for water and fibres such as cellulosic, Proteins/Polyamides, Polyester, Partition ratio for disperse dye on Polyester. Rate of dyeing of ionic and nonionic dyes on Cellulose, Protein & Synthetic fibres. Effect of fibre structure, chemical and physical such as drawing, heat setting, denier, twist, effect of -OH, -COOH, -NH2 etc., group on dyeing, diffusion of dyes, determination of dyes, determination of diffusion coefficient of disperse dyes on polyester.
9. Compatibility of dyes on different groups on fibres e.g. Acid dyes on Nylon, Direct dyes on Cotton, Disperse Dyes on Polyester and Cationic Dyes on CDPET fibres.

**Practicals**

This shall be based on prescribed syllabi.

**Term work**

This shall consist of records of practical work done during practical & recorded in the journal.

References Book :-


1. Technology & Dyeing — Shenai V.A.
2. Cellawhis ic Dyeing — John Phore
3. Chemical Processing & Synthetic fibres and blands — Datye and Vaidya
4. Dyeing and Chemical Technology of Tech. Fibres — Trutuman E.R.