



VASANTDADA SUGAR INSTITUTE
Manjari (Bk), Pune- 412307, Maharashtra

1.3.2: Courses integrates cross cutting issues
Course name: MSc WBAT
Syllabus (2019-2022)
Semester-I

| Programme Name | Course code | Course Name | Topic | Cross cutting issues |
|----------------|-------------|--|--|------------------------------------|
| MSc WBAT | WT 1.1 | Viticulture | Site selection, Grapevine planting materials & propagation | Human values & professional Ethics |
| | WT 1.2 | Microbiology of Alcohol, Beer and Wine | Industrially important fermentation products | Environment & sustainability |

Semester-II

| Programme Name | Course code | Course Name | Topic | Cross active issue integrated |
|----------------|-------------|------------------------|---|------------------------------------|
| MSc WBAT | WT 2.1 | Alcohol Technology – I | Raw material for alcoholic fermentation and its manufacturing | Human values & professional Ethics |



VASANTDADA SUGAR INSTITUTE
Manjari (Bk), Pune- 412307, Maharashtra

| | | | |
|--------|-----------|---|------------------------------------|
| WT 2.4 | Practical | Determination of ethanol content of spirit sample | Human values & professional Ethics |
| | | Determination of volatile acidity of rectified spirit | |
| | | Determination of aldehyde content of Rectified Spirit | |
| | | Determination of ester content of Rectified Spirit | |
| | | Determination of fusel oil content in spirit sample. | |
| | | Determination of furfural content in spirit sample | |
| | | To conduct potassium permanganate test for finding the quality of spirit. | |

Semester-III

| Programme Name | Course code | Course Name | Topic | Cross active issue integrated |
|----------------|-------------|-----------------------|--|-------------------------------|
| | WT 3.2 | Brewing technology-II | Brewery by - products and waste valorization | Environment |

Semester-IV

| Programme Name | Course code | Course Name | Topic | Cross active issue integrated |
|----------------|-------------|---|--|-------------------------------|
| MSc WBAT | WT 4.1. | Industrial Waste Treatment & Environmental Management | Waste generation & characteristics of effluent. IS norms. Biological treatment fundamentals Winery & brewery sanitization and waste disposal | Environment Environment |



VASANTDADA SUGAR INSTITUTE
Manjari (Bk), Pune- 412307, Maharashtra

| regulations | | Environment & sustainability |
|-------------|--|------------------------------------|
| | Waste water disposal systems in industries and air pollution | Environment & sustainability |
| | Water conservation in distilleries. | Human values & professional Ethics |
| WT 4.5.1 | Alcohol Technology-III Alcohol from Non-molasses sources, manufacture of malt alcohol and cost of production of alcohol | Environment & sustainability |
| WT 4.5.2 | Practical Estimation of volatile acids in molasses fermented broth | Human values & professional Ethics |
| WT 4.7.1 | Enology-III Demonstration of fermentation and distillation processes at distillery site | Human values & professional Ethics |
| | Post fermentation treatments of wines & related topics | Human values & professional Ethics |
| | Maturation and aging of wine | Human values & professional Ethics |

Total number of subjects integrated the cross cutting issues in the syllabus of MSc WBAT course are 9.

Principal



Principal
Vasantdada Sugar Institute
Manjari (Bk), Tal. Haveli,
Dist. Pune - 412 307