



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

1.3.2: Courses integrates cross cutting issues
Course name: MSc WBAT
Syllabus (Implemented from 2023)
Semester-I

Programme Name	Course code	Course Name	Topic	Cross cutting issues
MSc WBAT	WT 511 MJ	Microbiology of Wine, Beer & Alcohol	Industrially important fermented products	Environment & sustainability
	WT 513 MJ	Vineyard Technology	Site selection: Macroclimate, microclimate	Human values & professional Ethics
	WT 510 RM	Research Methodology	Research methods: Sample collection and processing techniques (Water, soil, air)	Environment
	WT 515 MJ	Viticulture	Soil management: The role of soil in root growth, soil moisture, soil air, soil temperature, organic matter and biological factors (climate, light, temperature, air, rainfall, humidity, carbon dioxide) and effect of climate at different growth stages	Environment
	WT 516 MJ	Alcohol Technology-I	Raw material for alcoholic fermentation and its manufacturing	Human values & professional Ethics
			Introduction to first and second generation of ethanol	Environment &



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			Scenario of ethanol blending programme in India, Current status of ethanol blending programme. Requirement of ethanol in India for 15 and 20% ethanol blending in petrol, Alcohol based chemicals	sustainability Environment & sustainability
			Determination of ethanol content of spirit sample	
			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.	Human values & professional Ethics
			Food Microbiology & Food health: Food spoilage-effect of spoilage & microbes in fermented food	Environment
	WT 516 MJP	Alcohol Technology-I Group II Major Elective Practical		
	WT 517 MJ	Food Technology		

Semester-II

Programme Name	Course code	Course Name	Topic	Cross cutting issues
MSc WBAT	WT 522 MJ	Brewing Technology-I	Basic raw materials of brewing – Water quality reports parameter – primary standards, Secondary standards; aesthetic standards. Chemical Characterization of water types	Environment



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WT 523 MJ	Alcohol Technology-II	Details of alcoholic fermentation: Opportunities & challenges for syrup fermentation, sugarcane juice/sugarcane syrup to ethanol fermentation, Guidelines for use of sugarcane juice or sugarcane syrup for ethanol fermentation by DFPP. Introduction to green chemistry and technology: Industrial ecology, role of industrial ecology in green technology, Introduction to Government policies for green product formation	Environment & sustainability
WT 526 MJ	Green Technology	Green product formation: 1. Concept of biorefinery, Concept of circular economy, Formation of biochemicals-Fermented product formation of Ethanol, Lactic acid, Poly hydroxyl alkanates, Hydrogen & Butanol 2. Waste to wealth Production of Bio CNG, Biocompost, Hydrogen	Environment & sustainability
WT 530 MJ	Sensory Evaluation & Serving of wine	Scoring wine and wine evaluation under different conditions. Effect of age on wine, Effect of temperature on wine	Human values & professional ethics

Total number of subjects integrated the cross cutting issues in the syllabus of MSc WBAT course are 11.


Principal



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