

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

1.3.2: Courses integrates cross cutting issues Course name: MSc WBAT Syllabus (Up to 2018) Semester-I

Programme Name	Course code	Course Name	Торіс	Cross cutting issues	
MSc WBAT	WT 1.2	Microbiology of Alcohol, Beer and Wine	Industrially important fermentation products	Environment & sustainability	

Semester-II

Programme Name	Course code	Course Name	Торіс	Cross cutting issues
MSc	WT 2.1	Alcohol Technology – I	Raw material for alcoholic fermentation	Human values & professional ethics
WBAT	WT 2.3	Enology-I	Pot distillation of wine: Details of pot distillation, Manufacturing and maturation of grape spirit	Environment & sustainability

Semester-III

Programme Name	Course code	Course Name	Торіс	Cross cutting issues	
MSc	WT 3.1	Alcohol Technology – II	Characteristics of various alcohols, denaturation and by-products of	Human values &	



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WBAT			alcohol	professional ethic	cs
			Composition of Wash, RS, EQRS, ENA, EQENA, FA, AA and IS. Denaturation of spirit	Human values professional ethic	
			By products of alcohol manufacture – CO2, fusel oil & yeast sludge.	Environment sustainability	&
			Manufacture of Extra Neutral Alcohol, Anhydrous alcohol/Fuel ethanol: Azeotropic mixture commercial production of ethanol by azeotropic distillation.	Environment sustainability	&
			Analytical aspects of alcohol and alcoholic beverages: various alcohol and alcoholic beverages	Environment sustainability	&
	WT 3.2	Brewing technology-II	Brewery by - products and waste valorization	Environment sustainability	&

Semester-IV

Programme Name	Course code	Course Name	Торіс	Cross cutting issues
			Biological treatment fundamentals: Waste treatment methods	Environment
			Winery and brewery sanitization and waste disposal regulations	Environment Environment Environment & sustainability
			Waste water disposal systems in industries	
MSc WBAT	WT 4.2	WT 4.2 Industrial Waste Treatment & Environmental Management	Water conservation in distilleries.	
WBAI			Air pollution control principles & equipments, Environmental Audit, Disposal of effluent & soil fertility, Environmental laws	Environment Environment & sustainability Human values & professional ethics Environment &
	WT 4.3	Alcohol Technology-III	Alcohol from Non-molasses sources and manufacture of malt alcohol	Environment & sustainability



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			Multipressure distillation and Molecular sieve dehydration system	Environment sustainability	&
			Alcohol production from sugar processing intermediates	Environment sustainability	&
	WT 4.41	Second Generation Biofuels	Value added products Syngas, Bio-butanol/bio-ethanol production.	Environment sustainability	&
			Algal biofuels	Environment sustainability	&
	WT 4.43	Advance Enology	Maturation and aging of wine: Factors affecting maturation of wine	Human value professional et	

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

Principal