SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S

SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

UG Department of Microbiology

Skill Based Diploma Course: Fruit Processing & Wine Technology

Session 2019-2020

Course Coordinator Report

Department of Microbiology, S.S.E.S. A's Science College, Congress Nagar, Nagpur organized has run the Skill based diploma course on "Fruit Processing & Wine Technology". A total of 32 students from the BSc First Year & 32 students from First Year Fruit Processing & Wine Technology were admitted to the course having theory as well as practical classes. A guest lectures on this course was conducted under the chairmanship of Officiating Principal Prof. M.P. Dhore, Skill based course College-Coordinator- Prof. Atul Bobdey and Skill Course Coordinator- Dr. Pranita Gulhane. The lecture was on Fruit processing, Wine technology & related topics. This skill course helps to develop skills for the efficient production of jam, jelly and wine. It also helps to inculcate learning and earning spirit among students. Moreover, by processing raw agricultural products, the food processing sector is able to increase their value, resulting in higher returns for farmers and rural communities, thereby contributing to the Prime Minister's vision of doubling farmers' income. Winemaking involves a wide range of microbiota that greatly influences the quality of wine and may cause negative attributes of some wines. Thus, the detection, identification, and characterization of the wine microbiome, including genera, species, strains, and metabolites involved, is of crucial importance. This course helps to carry out large-scale production of jam, jelly and wine for commercial use. After successful completion of the course, the examination was conducted by offline mode with Multiple Choice Question- Objective mode. Certificates of qualifying the exam were distributed to the exam qualified students.

Action Taken: A skill development course in Fruit Processing and Wine Technology is designed to equip participants with the knowledge and practical skills needed to work effectively in the fruit processing and winemaking industries.

Production of Jam & Jelly

Dr.Pranita Gulhane
Skill Based Course Coordinator

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S

SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

UG Department of Microbiology

NOTICE

Date: 30/08/2019

All the students are informed that **U.G. Department of Microbiology** runs **Skill Based Diploma on Course: Fruit Processing & Wine Technology** for the session 2019-20. Interested students of B.Sc. are requested to provide their names to the course Coordinator Dr. Pranita Gulhane or before 04/9/2019.

Dr.Pranita Gulhane
Skill Based Course Coordinator

U.G. DEPARTMENT OF MICROBIOLOGY,
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

AccreditedwithCGPAof3.51at'A+'GradebyNAAC,Bangalore
ACollegewithPotentialforExcellence
AnInstitutionalMemberofAPQN
RecognizedCenterforHigherLearning & Research
AMentorCollegeunderParamarshSchemeofUGC,NewDelhi
A Mentor College under Paris Sparsh Scheme of Maharashtra State

Skill Based Diploma Course for the Session 2019-20

on

Fruit Processing & Wine Technology

Skill Based Diploma Course: Fruit Processing & Wine Technology

Course Co-Ordinator: Dr. Pranita Gulhane

Course Introduction Fruit Processing & Wine Technology course offers an in-depth exploration of the techniques, technologies, and principle involved in fruit processing and wine production. Students will gain hands-on experience and theoretical knowledge essential for careers in these industries, focusing on the science and art behind creating high-quality fruit products and wines.

Course Objectives

1. To develop skill for the efficient production of Wine.
2. To inculcate learn and earn sprit among students about fruit processing.
3. To increase the survival rate of many communities for they solely depend on wine production.
4. To carry out large scale production of dietary supplements for direct consumption of processed fruits.
5. To develop awareness among people to increase the shelf life of perishable fruits.

Registration Date: 04/09/2019

Prof. Atul Bobdey	**Prof. Mahendra Dhore**	**Dr. Pranita Gulhane**
Coordinator	*Principal*	*Course- Coordinator*
Dept. of Microbiology	*Science College, Nagpur*	*Skill Based Course*

UG Department of Microbiology

Skill Based Diploma Course: Fruit Processing & Wine Technology

(Session 2019-2020)

Course Co-Ordinator: Dr. Pranita Gulhane

Course Introduction

Fruit Processing & Wine Technology course offers an in-depth exploration of the techniques, technologies, and principle involved in fruit processing and wine production. Students will gain hands-on experience and theoretical knowledge essential for careers in these industries, focusing on the science and art behind creating high-quality fruit products and wines.

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4.To carry out large scale production of dietary supplements for direct consumption of processed fruits.

5.To develop awareness among people to increase the shelf life of perishable fruits.

- **Instructional Strategies:** Theory class, Practical, Video clips, Models etc.
- **Evaluation Strategies**: Oral discussions and Final MCQ examination

Course Outcomes: By the end of this course, participants will be equipped with the comprehensive knowledge and practical skills needed to pursue careers in the fruit processing and winemaking sectors. They will be prepared to contribute effectively to production, quality control, research and development, and management roles within these dynamic industries.

Duration of course: Twenty weeks (60 Hours)

Dr.Pranita Gulhane
Skill Based Course Coordinator

Module: Skill Based Certificate Course- Fruit Processing and Wine Technology (Session 2019-2020)

The skill base diploma course syllabus for B.Sc. I, II and III appear students. Total 32 students were admitted for the course. Two-year diploma course in FRUIT PROCESSING AND WINE TECHNOLOGY. The examination of course shall comprise of two theory paper of three hours carries 40 marks each and two practical of one hour duration carries 30 marks. Internal assessment for the course based on one seminar 20 marks shall be conducted by university approved teachers, one project 20 marks and one field visit 20 marks. Internal assessment marks should be included in minimum passing marks of the students. Candidates are expected to pass separately in theory, internal assessment and practical examination. Students require 40% marks in theory for passing including internal marks. Separate passing in practical examination is required, assignment submission is necessary to get internal marks. The structure of syllabus for certificate course along with distribution of marks is also displayed in the following table.

<table>
<tr><th>Course</th><th>Theory papers and Practical</th><th colspan="4">Marks</th><th></th><th>Total marks</th></tr>
<tr><td></td><td></td><td>Theory</td><td>Seminar</td><td>Field Visit</td><td>Project</td><td>Practical</td><td></td></tr>
<tr><td rowspan="2">Diploma course in Fruit processing and Wine technology</td><td rowspan="2">1.Theory paper I & II Fruit processing and Wine technology
2.Practicals based on course
3. Seminar
4. Field Visit
5. Project</td><td>Paper I-40</td><td rowspan="2">20</td><td rowspan="2">20</td><td rowspan="2">20</td><td rowspan="2">60</td><td rowspan="2">200</td></tr>
<tr><td>Paper II-40</td></tr>
<tr><td colspan="6">Grand total</td><td>200</td></tr>
</table>

*Internal assessment – Based on student's attendance and performance during unit test exam and assignment/field work.

Dr. Pranita Gulhane
Course Coordinator

Dr. Amitabh Halder
IQAC Coordinator
Internal Quality Assurance Cell
(IQAC)
S. S. E. S. A. Science College
Congress Nagar, Nagpur.

Prof. Mahendra Dhore
Principal
Principal
S. S. E. S. Amravati's
Science College, Nagpur.

SYLLABUS

THEORY DURATION – 02 Hrs per week
60 Hrs per Session
EXAMINATION HRS. - 03 Hrs
MAX. MARKS 80

PAPER I – Wine Technology, Wine Production and Wine Microbiology

CHAPTER	CONTENTS
	UNIT I
1	**Introduction and establishment of vineyard garden.** - Climatic requirement for grapes cultivation. Selection of soils, preparation of land vineyard layout.
2	**Propagation and practices in vineyard garden.** Propagation techniques-single root method and root stock method. Nutritional requirement of grape wine, optimum of PGR in propagation
3	**Plant protection** - Important diseases and pest of grapes. - Integrated pest management.
4	**Maturity indices preharvesting method and handling** - Maturity indices of Grape for wine industry. - Suitable methods of harvesting, precooling, grading , packing and transportation of grapes. - Methods of increasing sugar content in grapes.
5	**Shelf-life of fruits** - Criteria determining shelf-life of grapes.

CHAPTER	CONTENTS
	UNIT II
1	**Introduction to Wine Technology** - Wine is a fermented product. - Wine history ("old" and "new" world wine). - Classification of Wine - Wine quality (vintage, Terroir). - Wine and health (resveratrol, French paradox).
2	**Transformation Grapes into Wine** - Grape maturity. - Pre-fermentation actions (enzymes, skin contact...). - Artificial inoculation (yeast selection). - Alcoholic fermentation. - Malolactic fermentation.
3	**Wine production flow charts :** - White wine. - Red wine. - Rosé wine. - Sparkling wine. - Port and sherry wine. **Wine fermentation technology** - Use of Sulphur-di-Oxide. (pH influence).

CHAPTER	CONTENTS
	UNIT III
1	Vintage and processing of grapes
2	Pre fermentation and white wine production
3	Red wine-making
4	Post fermentation measures
5	Post Fermentation process

CHAPTER	CONTENTS	MARKS	HOURS
	UNIT IV		
1	- Chemical nature, origin and consequences of the Organoleptic defects		
2	- The colloidal state and tartrate stability in wine		
	- Clarification and Filtration process		
3	- Fining and fining agents		
4	- Fining of wines		
5			

CHAPTER	CONTENTS
	UNIT V
1	Microbial spoilage - Diagnosis of spoilage - Identification of wine spoilage micro-organisms.
2	Oak and wine

Practical:

1	Proximate composition of fruit juices: a) pH – by pH meter. b) Acidity – by titration. c) Moisture – Oven drying. d) Sugar – AOAC.
2	Preparation of soft drinks : a) Lemon water. b) Barley water (1)
3	Production of raisins from grapes (2) → Pg.No. 5
4	Production of organic manures from pomace of fruit industry
5	Procedure for preparation of jelly from any two fruits (apple, orange, pineapple, mixed fruits, mango, papaya etc.) → (4)
6	Preparation of marmalade → (5)
7	Preparation of lemon syrup. → (3) Pg.No.: 4
8	Preservation of *apple* juice. → (6)

Note

1	A visit to the winery: Report submission
2	Seminar on wine microbiology (20) min / student

ticals:

1	Determination of reducing sugar by Lane and Eynon method → (10)
2	Determination of carbon-di-oxide by titrimetric method → (8)
3	Alcohol estimation in wine → (9)
4	Protein stability : Heat test
5	Microscopic observation of yeast present in wine. Starter yeast and Specific staining techniques for dead and alive cells. (7)
6	Identification of lactic acid bacteria by biochemical methods. → (11)
7	Identification of acetic acid bacteria by biochemical method. → (12)
8	Isolation of spoilage micro organism from wine sample.

Science College, Congress Nagar, Nagpur. SEAL

Gulhane

Dr.Pranita Gulhane
Skill Based Course Coordinator

Teaching Plan: Skill Based Diploma Course- Fruit Processing & Wine Technology

(Duration- 60 hours) (Session 2019-20)

I Year

Weeks	Day	Content
Theory **Paper I: Wine Technology, Wine Production & Wine Microbiology**		
1	1.1 (01)	Introduction and establishment of vineyard garden
	1.2 (02)	Climatic requirement for grapes cultivation
	1.3 (02)	Selection of Soils, Preparation of land and vineyard layout
2	1.4 (03)	Propagation and practices in vineyard garden
	1.5 (03)	Propagation techniques- single root method and root stock method
	1.6 (04)	Nutritional requirement of grape wine, optimum of PGR in propagation
3	1.7 (05)	Plant protection
	1.8 (06)	Important diseases and pest of grapes
	1.9 (06)	Integrated pest management
4	1.10 (07)	Maturity indices Pre-harvesting method and handling
	1.11(08)	Suitable methods of harvesting, precooling, grading, packing and transportation of grapes
	1.12 (08)	Methods of increasing sugar content in grapes
5	1.13 (09)	Shelf-life of fruits
	2.1 (10)	Introduction of Wine Technology
6	2.2 (11)	Classification of Wine
	2.3 (12)	Transformation of grapes into wine
7	2.4 (13)	Wine fermentation technology
	2.5 (13)	Pre-fermentation actions
	2.6 (14)	Wine production flow charts
	2.7 (14)	White wine
	2.8 (14)	Red wine
8	2.9 (15)	Rose wine
	2.10 (16)	Sparkling wine
	2.11 (16)	Port and Sherry Wine
Paper II: Fruit Processing		

9	1.1 (17)	Fruit juices, squashes and cordials
	1.2 (17)	Fruit juice: Preservation and carbonation
	1.3 (18)	Layout plan of a pomegranate juice plant
	1.4 (18)	Fruit beverages: preparation and preservation
10	1.1 (19)	Staining, filtration and clarification
	1.2 (20)	Fruit juice: Preservation and carbonation
11	2.1 (21)	Citrus fruit juices
	2.2 (21)	Scenario of citrus production in India
	2.3 (22)	Various products from citrus fruits. Shelf-life monitoring of citrus juice
	2.4 (22)	Carbonated beverages from citrus
12	2.5 (23)	Citrus by-products: manufacture of citric acid, orange oil, marmalades, vinegar, pectin etc.
	3.1 (23)	Evaluation of banana for various product
	3.2 (24)	Composition of banana fruit and its nutritive value
13	3.3 (25)	Extraction of protein from banana leaves
	3.4 (25)	Cattle feed from banana fruits
	3.5 (26)	Utilization of juice of banana plant for energy production
	3.6 (26)	Production of fiber from pseudo-stem of banana
Practical: Paper I		
14	1 (27)	Proximate composition of fruit juices: a) pH- by pH meter. b) Acidity- by titration c) Moisture- oven drying. d)Sugar- AOAC
	2 (27)	Preparation of soft drinks: a) Lemon water b)Barley water
	3 (28)	Production of raisins from grapes.
	4 (28)	Production of organic manures from pomace of fruit industry
Practical: Paper II		
15	5 (29)	Determination of Reducing Sugar by lane and eynone method
	6 (29)	Determination of carbon dioxide by titrimetric method
	7 (30)	Alcohol estimation in wine
	8 (30)	Protein stability: Heat test

Dr.Pranita Gulhane
Skill Based Course Coordinator

Teaching Plan: Skill Based Diploma Course- Fruit Processing & Wine Technology

(Duration- 60 hours) (Session 2019-20)

II Year

Weeks	Day	Content
Theory Paper I: Wine Technology, Wine Production & Wine Microbiology		
1	3.1 (01)	Vintage and processing of grapes
	3.2 (02)	Pre fermentation and white wine production
2	3.3 (03)	Red wine making
	3.4 (04)	Post fermentation measures
	3.5(04)	Post fermentation process
3	4.1 (05)	Chemical nature origin and consequences of the organoleptic defects
	4.2 (06)	The colloidal state and tartarate stability in wine
4	4.3 (07)	Clarification and filtration process
5	4.4 (08)	Fining and fining agents
	4.5 (09)	Fining of wines
6	5.1 (10)	Microbial spoilage
	5.2 (11)	Diagnosis of spoilage
7	5.3 (12)	Identification of wine spoilage microorganisms
	5.4 (13)	Oak and Wine
Paper II – Fruit Processing		
8	4.1 (14)	Techniques used in the preparation of Starter Culture of Yeast
	4.2 (15)	Management and control of the first and second alcoholic fermentation
9	4.3 (16)	Use of fermentation activators and ammoniacal nitrogen and control of fermentation temperature
	4.4 (17)	Sluggish and stuck alcoholic fermentation their rectification
10	4.5 (18)	Evidence for the existence of interactions between wine and yeast
	5.1 (19)	Production of pectin from citrus peel
11	5.2 (20)	Production of citric acid from citrus fruit
	5.3 (21)	Production of jam from papaya or pine apple or mango
12	5.4 (22)	Orange oils citrus fruit

	5.5 (23)	Production of vinegar from fruits
Practical: Paper I		
13	5 (24)	Microscopic Observation of yeast present in wine. Starter yeast and specific staining techniques for dead and alive cells
	6 (25)	Isolation of spoilage microorganism from wine sample
14	7 (26)	Identification of lactic acid bacteria by biochemical methods
	8 (27)	Identification of acetic acid bacteria by biochemical methods
Practical: Paper II		
15	5 (28)	Procedure for preparation of jelly from any two fruits (apple, orange, pineapple, mixed fruits, mango, papaya etc.
	6 (29)	Preparation of marmalade
	7 (30)	Preparation of lemon syrup
	8 (30)	Preservation of apple juice

UG Department of Microbiology

Skill Based Diploma Course- Fruit Processing & Wine Technology

Time Table

w.e.f. 06/09/2019

Day	Theory
Mon & Tue	(Biotech Lab) Theory 9.00 PM 10.00 PM
Wed & Thu	(Biotech Lab) Theory 9.00 PM 10.00 PM
Fri & Sat	(Biotech Lab) Practical, 10.00 PM – 12.00 PM

Dr.Pranita Gulhane
Skill Based Course Coordinator

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S

SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

UG Department of Microbiology

EXAMINATION NOTICE

Date: 04/11/2019

All the students enrolled for **Skill Based Course: Fruit Processing & Wine Technology** for the session 2019-20 First year & Second Year are informed that dates of Theory and Practical Exam are mentioned in the table given below. All the appearing students are informed to remain present in Biotechnology Laboratory at 10:30 – 11:30AM for Theory Exam and at 12:30 PM – 5:30 PM for Practical Exam.

Sr. No.	Class	Theory Paper I	Theory Paper II	Practical	Venue
1.	First Year	10/11/2019	11/11/2019	11/11/2019	Biotech Lab
2.	Second Year	13/11/2019	14/11/2019	13/11/2019	Biotech Lab

Dr.Pranita Gulhane

ATTENDENCE SHEET (2019-20)

S.S.E.S.A`s Science College, Congress Nagar, Nagpur

First Year Diploma in Skill Course Fruit processing & Wine Technology

Class: Fruit Processing & Wine Technology Paper II

Theory/ Practical:

Month: Sep to Oct

Name of Lecturer: Dr. Pranita Gulhane

Sr. No	Name of Student	9/9/2019	11/09/2019	12/9/2019	16/9/2019	17/9/2019	18/9/2019	19/9/2019	23/9/2019	24/9/2019	25/9/2019	26/9/2019	30/9/2019	1/10/2019	9/10/2019	10/10/2019	14/10/2019	15/10/2019	16/10/2019	17/10/2019	21/10/2019	22/10/2019	23/10/2019	24/10/2019
1.	AishwaryaS.Mohatkar	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
2.	Aniket S.Adase	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	A	P	P	A
3.	Anjali S. Lokhande	P	A	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P
4.	Ankit M. Pajai	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	A
5.	Anuradha S. Paralkar	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P
6.	Anushree Muley	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	A
7.	Atharva L. Rathod	P	A	P	P	P	P	P	A	P	P	P	A	P	P	A	P	P	P	P	A	P	P	P
8.	Chetna R. Choudhari	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P
9.	Dipti M. Rangu	P	A	P	P	A	P	P	P	P	A	P	A	P	P	P	P	A	P	P	P	A	P	P
10	Isha V.Arghode	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P
11	Kalpana S. Patra	A	P	P	P	P	A	P	P	P	P	P	A	P	P	A	P	P	P	P	A	P	A	P
12	Kinjal S. Kulkarni	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	A
13	Mahek R.Burchunde	P	A	P	P	A	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P
14	Muskan Verma	A	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P
15	Neha D. Mahant	P	A	P	P	P	P	P	P	A	P	P	P	A	P	A	P	P	P	P	P	P	A	P
16	Nikita N. Motwani	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	A
17	Prachi B.Navghare	A	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P
18	Prachi K. Kapse	P	P	P	A	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P
19	Rajashree S.Hatwar	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
20	Rashmi K. Agashe	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	A	P	P

SEAL

Dr. Pranita Gulhare

ATTENDENCE SHEET (2019-20)

S.S.E.S.A`s Science College, Congress Nagar, Nagpur

First Year Diploma in Skill Course Fruit processing & Wine Technology

Class: Fruit Processing & Wine Technology Paper II

Theory/ Practical:

Month: Sep to Oct

Name of Lecturer: Dr. Pranita Gulhane

21	Rohan Deshmukh	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P
22	Saptaparna Roy	A	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P
23	Sarvesh C.Bagde	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	A	P	P	P
24	Sharwari D.Halmare	P	A	P	P	P	P	A	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	A
25	Shivani S. Deshpande	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P
26	Shreya Zilpe	A	P	P	P	P	P	A	P	P	P	P	A	P	P	P	A	P	P	P	P	P	A	P
27	Shruti P. Renge	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P
28	Swati R. Sharma	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P
29	TeneshwariHirapure	P	P	P	A	P	P	A	P	P	P	A	P	P	P	P	A	PP	P	P	P	A	P	
30	Utkarsha Tondare	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A
31	Vedanti V. Kali	P	P	P	A	P	A	P	A	P	A	P	P	P	P	P	P	P	A	A	P	PP	P	
32	Yashoda R. Wade	P	A	P	A	P	P	A	P	A	P	A	P	P	P	P	P	P	P	P	P	A	A	

SEAL — Science College, Congress Nagar, Nagpur

Gulhane

Dr. Pranita Gulhane

ATTENDENCE SHEET (2019-20)

S.S.E.S.A`s Science College, Congress Nagar, Nagpur

First Year Diploma in Skill Course Fruit processing & Wine Technology

Class: Fruit Processing & Wine Technology

Theory/ Practical: Paper - I

Month: Sep to Oct

Name of Lecturer:

Dr. Pranita Gulhane

Sr. No	Name of Student	9/9/2019	11/9/2019	12/9/2019	16/9/2019	17/9/2019	18/9/2019	19/9/2019	23/9/2019	24/9/2019	25/9/2019	26/9/2019	30/09/2019	1/10/2019	9/10/2019	10/10/2019	14/10/2019	15/10/2019	16/10/2019	17/10/2019	21/10/2019	22/10/2019	23/10/2019	24/10/2019
1.	AishwaryaS.Mohatkar	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P		A	P	P	A	P	P	P
2.	Aniket S.Adase	P	P	P	A	P		P	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P
3.	Anjali S. Lokhande	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
4.	Ankit M. Pajai	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P
5.	Anuradha S. Paralkar	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
6.	Anushree Muley	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
7.	Atharva L. Rathod	P	P	P	P	P	A	P	A	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P
8.	Chetna R. Choudhari	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P
9.	Dipti M. Rangu	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A
10	Isha V.Arghode	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
11	Kalpana S. Patra	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	A	P	P
12	Kinjal S. Kulkarni	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
13	Mahek R.Burchunde	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P
14	Muskan Verma	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	A	P	P
15	Neha D. Mahant	P	P	A	P	P	A	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P
16	Nikita N. Motwani	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A		A	P	P
17	Prachi B.Navghare	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	Prachi K. Kapse	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Rajashree S.Hatwar	P		P	A	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
20	Rashmi K. Agashe	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

SEAL

Gulhane

Dr. Pranita Gulhane

ATTENDENCE SHEET (2019-20)

S.S.E.S.A`s Science College, Congress Nagar, Nagpur

First Year Diploma in Skill Course Fruit processing & Wine Technology

Class: Fruit Processing & Wine Technology

Month: Sep to Oct

Theory/ Practical:

Name of Lecturer: Dr. Pranita Gulhane

21	Rohan Deshmukh	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	A	P	P	A	P	P	P	P								
22	Saptaparna Roy	P	P	P	P	A	P	A	P	P	A	P	A	P	A	P	P	P	P	A	P	P	P	P								
23	Sarvesh C.Bagde	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P								
24	Sharwari D.Halmare	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	A								
25	Shivani S. Deshpande	P	P	P	A	P	P	A	P	A	P	P	P	A	A	P	P	P	P	A	P	P	P	P								
26	Shreya Zilpe	P	P	P	P	A	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	A								
27	Shruti P. Renge	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P								
28	Swati R. Sharma	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	A								
29	TeneshwariHirapure	P	A	P	A	P	P	P	P	P	A	P	A	P	A	P	P	P	P	P	P	P	P	P								
30	Utkarsha Tondare	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P	A								
31	Vedanti V. Kali	A	P	A	P	P	P	A	P	A	P	P	P	P	A	P	P	P	P	P	P	P	P	P								
32	Yashoda R. Wade	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P								

Dr. Pranita Gulhane

ATTENDENCE SHEET (2019-20)

S.S.E.S.A`s Science College, Congress Nagar, Nagpur

First Year Diploma in Skill Course Fruit processing & Wine Technology

Class: Fruit Processing & Wine Technology

Theory/ Practical: Theory

Month: Sep to Oct

Name of Lecturer: Dr. Pranita Gulhane

Sr. No	Name of Student	6/9/2019	7/9/2019	13/9/2019	14/9/2019	20/9/2019	21/9/2019	27/9/2019	28/9/2019	4/10/2019	5/10/2019	11/10/2019	12/10/2019	18/10/2019	19/10/2019	25/10/2019	26/10/2019
1.	AishwaryaS.Mohatkar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
2.	Aniket S.Adase	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3.	Anjali S. Lokhande	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P
4.	Ankit M. Pajai	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A
5.	Anuradha S. Paralkar	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
6.	Anushree Muley	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7.	Atharva L. Rathod	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8.	Chetna R. Choudhari	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9.	Dipti M. Rangu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	Isha V.Arghode	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
11	Kalpana S. Patra	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
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14	Muskan Verma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	Neha D. Mahant	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A
16	Nikita N. Motwani	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
17	Prachi B.Navghare	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P
18	Prachi K. Kapse	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
19	Rajashree S.Hatwar	P	P	P	P	P	P	P	P	P	P	A	P	P	A	A	P
20	Rashmi K. Agashe	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

SEAL

Dr. Pranita Gulhane

ATTENDENCE SHEET (2019-20)

S.S.E.S.A`s Science College, Congress Nagar, Nagpur

First Year Diploma in Skill Course Fruit processing & Wine Technology

Class: Fruit Processing & Wine Technology

Month: Sep to Oct

Theory/ Practical:

Name of Lecturer: Dr. Pranita Gulhane

21	Rohan Deshmukh	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	P
22	Saptaparna Roy	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
23	Sarvesh C.Bagde	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
24	Sharwari D.Halmare	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
25	Shivani S. Deshpande	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
26	Shreya Zilpe	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
27	Shruti P. Renge	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
28	Swati R. Sharma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
29	TeneshwariHirapure	P	P	P	P	P	A	P	A	P	A	P	P	P	P	P	P
30	Utkarsha Tondare	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
31	Vedanti V. Kali	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
32	Yashoda R. Wade	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P

SEAL

Dr. Pranita Gulhane

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S

SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

Department of Microbiology

Skill-Based Diploma Course: Fruit Processing & Wine Technology

Session 2019-2020

List of the Students: Skill Based Diploma Course- Fruit Processing & Wine Technology Session 2019-2020 (IstYear)

Sr.No.	Name of Student	Signature
1.	AishwaryaS.Mohatkar	
2.	Aniket S. Adase	
3.	Anjali S. Lokhande	
4.	Ankit M. Pajai	
5.	Anuradha S. Paralkar	
6.	Anushree Muley	
7.	Atharva L. Rathod	
8.	Chetna R. Choudhari	
9.	Dipti M. Rangu	
10.	Isha V. Arghode	
11.	Kalpana S. Patra	
12.	Kinjal S. Kulkarni	
13.	Mahek R. Burchunde	
14.	Muskan Verma	
15.	Neha D. Mahant	
16.	Nikita N. Motwani	
17.	Prachi B. Navghare	
18.	Prachi K. Kapse	
19.	Rajashree S. Hatwar	
20.	Rashmi K. Agashe	
21.	Rohan Deshmukh	
22.	Saptaparna Roy	

23.	Sarvesh C. Bagde	
24.	Sharwari D. Halmare	
25.	Shivani S. Deshpande	
26.	Shreya Zilpe	
27.	Shruti P. Renge	
28.	Swati R. Sharma	
29.	Teneshwari Hirapure	
30.	Utkarsha Tondare	
31.	Vedanti V. Kali	
32.	Yashoda R. Wade	

SEAL

Dr. Pravita Gulhane
Department of Microbiology
Science College, Congress Nagar,
NAGPUR.

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Diploma Course First Year Examination, Summer- 2019-20

Name of Subject: Fruit Processing & Wine Technology

Medium: English **Paper:** I **Marks Obtained:**

Centre Name: Science College Congress Nagar, Nagpur

Name of Student: **Class:** **Group:**

Duration: 1hr **Max Marks:** 40

Note:

1) **Each Question Carries 2 Marks.**
2) **Each Question is Compulsory.**
3) **No Negative Marking**

1.What temperature is maintained during anaerobic fermentation of red wine?
a)20-24 °C
b)24-27 °C
c)27-31 °C
d)31-34 °C
Ans.b
2.Which of the following acid is called as nature's acidulants?
a) Citric acid
b) Malic acid
c) Ascorbic acid
d) Tartaric acid
Ans.a
3.Which enzyme is used for clarification of fruit juice?
a) Proteases
b) Cellulases
c) Lipase
d) Ribonuclease
Ans.b
4. Which of the following is added in fortified fruit juices?
a) Sulphur dioxide
b) Calcium
c) Water
d) Hydrogen peroxide
Ans.b

5.Which of the following fruit is affected by grey mold?
a) Grapes
b) Apple
c) Banana
d) Custard apple
Ans.a
6.Which of the following is NOT a step in the winemaking process?
a) Harvesting
b) Crushing
c) Malting
d) Fermentation
Ans.c
7. Which of the following factors can influence the quality of wine produced?
a) Grape variety
b) Climate
c) Soil type
d) All of the above
Ans.d
8. What is the primary sugar present in grapes that is converted into alcohol during fermentation?
a) Glucose
b) Fructose
c) Sucrose
d) Maltose
Ans.b
9. What is the final step in the transformation of grapes into wine?
a) Filtering
b) Bottling
c) Labelling
d) Aging
Ans.b

10. Which type of fermentation is commonly used in winemaking to produce alcoholic beverages?
a) Lactic acid fermentation
b) Acetic acid fermentation
c) Malolactic fermentation
d) Alcoholic fermentation
Ans.d
11. What temperature is maintained during anaerobic fermentation of red wine?
a)20-24 °C
b)24-27 °C
c)27-31 °C

d)31-34 °C
Ans. **24-27 °C**

12. Which of the following acid is called as nature's acidulants?
a) Citric acid
b) Malic acid
c) Ascorbic acid
d) Tartaric acid
Ans. **Citric acid**

13. Which enzyme is used for clarification of fruit juice?
a) Proteases
b) Cellulases
c) Lipase
d) Ribonuclease
Ans. **Cellulases**

14. Which of the following is added in fortified fruit juices?
a) Sulphur dioxide
b) Calcium
c) Water
d) Hydrogen peroxide
Ans: **Calcium**

15. Carrots are rich in …
a) Vitamin B
b) Vitamin C
c) Vitamin A
d) Vitamin D
Ans: c

16. What is the citrus fruit production in India?
a) 14million tonnes
b) 24 million tonnes
c) 34 million tonnes
d) 44 million tonnes
Ans: a

17. Which of the following citrus fruits are most commonly grown in India?
a) Mandarin
b) Lime
c) Lemon
d) Grapefruit
Ans: a

18. Which citrus fruit is used to make the drink Limca?
a) Lime
b) Lemon
c) Mandarin

d) Both a & b
Ans: d

19. Which citrus fruit is used to make the citrus by-product Pectin?
a) Grapefruit
b) Lemon
c)Lime
d) Both a & b
Ans: d

20. What is the largest citrus fruit producing State in India?
a) Maharashtra
b) Tamil Nadu
c) Karnataka
d) West Bengal
Ans: a

Dr.Pranita Gulhane
Skill Based Course Coordinator

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Diploma Course First Year Examination, Summer- 2019-20

Name of Subject: Fruit Processing & Wine Technology

Medium: English **Paper:** II **Marks Obtained:**

Centre Name: Science College Congress Nagar, Nagpur

Name of Student: **Class:** **Group:**

Duration: 1hr **Max Marks:** 40

Note:

1) **Each Question Carries 2 Marks.**
2) **Each Question is Compulsory.**
3) **No Negative Marking**

1. What is the function of sulphites in winemaking?
a) To enhance colour
b) To prevent oxidation and microbial growth
c) To increase alcohol content
d) To lower acidity

Ans. To prevent oxidation and microbial growth

2. What is the optimal temperature range for yeast fermentation in winemaking?
a) 0-10°C (32-50°F)
b) 20-30°C (68-86°F)
c) 40-50°C (104-122°F)
d) 60-70°C (140-158°F)

Ans. 20-30°C (68-86°F)

3. What is the difference between a squash and a cordial?
a) Squash is diluted with water before consumption, while cordial is consumed as is.
b) Cordial is made from concentrated fruit juice, while squash is made from fresh fruit.
c) Squash is alcoholic, while cordial is non-alcoholic.
d) There is no difference; the terms are interchangeable.

Ans. Squash is diluted with water before consumption, while cordial is consumed as is.

4. Which of the following is a benefit of consuming fruit juices, squashes, or cordials?
a) High fiber content

b) Low sugar content
c) Rich source of vitamins and minerals
d) High protein content
Ans. Rich source of vitamins and minerals

5. What is the primary vitamin found in citrus fruit juices?
a) Vitamin A
b) Vitamin B12
c) Vitamin C
d) Vitamin D
Ans. Vitamin C

6.Which of the following wines undergo malolactic fermentation?
a) Sparkling wine
b) Rose wine
c) Red wine
d) Sheery wine
Ans: Red Wine

7.The most used preservative for fruit juice is __ _____?
a) Sodium benzoate
b) Erythorbic acid
c) Calcium sorbate
d) None of these
Ans: Sodium benzoate

8.Which of the following fruits is not used in beverage production?
a) Mango
b) Litchi
c) Guava
d) Pear
Ans: Pear

9.Which of the following techniques is mostly used in preservation of beverages?
a) Pateurization
b) Canning
c) Both a. and b.
d) None of these
Ans: Pateurization

10.Which of the following organisms used in citric acid production?
a) S. aureus

b) Campylobacter
c) Aspergillus Niger
d) E. coli
Ans. Aspergillus Niger

11. Which product is obtained by drying and grinding citrus peels?
a) Citrus oil
b) Citrus zest
c) Citrus powder
d) Citrus extract
Ans: Citrus powder

12. Which citrus fruit is primarily used to make marmalade?
a) Lemon
b) Lime
c) Grapefruit
d) Orange
Ans: Orange

13. What is the main component extracted from citrus peels used in flavorings and fragrances?
a) Citric acid
b) Limonene
c) Vitamin C
d) Pectin
Ans: Limonene

14. Which citrus fruit is commonly used to make lemonade?
a) Lemon
b) Lime
c) Grapefruit
d) Orange
Ans: Lemon

15. What is the primary use of citrus essential oils?
a) Cooking
b) Aromatherapy
c) Cleaning products
d) All of the above
Ans: All of the above
16.What is the best processing method to remove toxins?
a) Freezing

b) Fermentation
c) Thermal processing
d) Pickling
Ans: Thermal processing
17.What is the process of drying fruit called?
a) Dehydration
b) Hydration
c) Rehydration
d) Moisture hydration
Ans: Dehydration
18.What is the desirable sugar content of the grapes required for the wine production?
a)2-5%
b)5-10%
c)10-14%
d)14-20%
Ans: 14-20%
19.The process of making malt as soluble as possible by using enzymes adjuncts etc is known as
a) Brewing
b) Malting
c) Mashing
d) Pitching
Ans: Mashing
20.Which of the following organism is used for the fermentation of grapes?
a) Rhizopus sonti
b) Aspergillus oryzae
c) Lactobacillus vermiformis
d) Saccharomyces cerevisiae
Ans: *Saccharomyces cerevisiae*

Dr.Pranita Gulhane
Skill Based Course Coordinator

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Diploma Course Second Year Examination, Summer- 2019-20

Name of Subject: Fruit Processing & Wine Technology

Medium: English **Paper:** I **Marks Obtained:**

Centre Name: Science College Congress Nagar, Nagpur

Name of Student: **Class:** **Group:**

Duration: 1hr **Max Marks:** 40

Note:

4) **Each Question Carries 2 Marks.**
5) **Each Question is Compulsory.**
6) **No Negative Marking**

1.Which chemical compound is used in fermentation of wine.
a) Sulphur dioxide
b) Carbon dioxide
c) Carbon monoxide
d) None
Answer: a) sulphur dioxide

2.Grapes are not infected by these disease
a) anthracnose
b) black rot
c) bacterial leaf spot
d) fireblight
Answer: d) fireblight

3.Which factor affects the final quality of fruit juice.
a) Ripening of fruits
b) Quantity of sugar
c) Extra added flavours
d) all of the above
Answer: a) Ripening of fruits

4.Fruit juice can be "labelled fresh" in which condition.
a) Refrigeration combined
b) Pasturized
c) Prepared before consuming
d) Hermeticaly packed
Answer: d) Hermeticaly packed

5.Which state in India is the largest producer of citrus.
a) Jammu and Kashmir

b) Haryana
c) Maharshtra
d) Tamil Nadu
Answer: c) Maharashtra

6.Which is not a product of citrus fruit.
a) Wine
b) Crush
c) Cola
d) Juice concentrates
Answer: c) Cola

7.Self life of stored orange juice
a) After 4 days
b) After 3 days
c) After 5 days
d) After 6 days
Answer: c) After 5 days

8.Which part of banana plant is used to feed cattles.
a) Peel
b) Leaf
c) Fruit
d) All of the above
Answer: d) All of the above

9.What is mostly extracted from the sheath of banana pseudostem for making handicrafts.
a) Banana fiber
b) Stem juice
c) Skin
d) Flesh
Answer: a) Banana fiber

10. Juice of banana plant for energy production is mostly used in .
a) As a beverage
b) Medicines
c) In vitro media
d) Oil making
Answer: c) In vitro media.

11. Where is the earliest evidence of wine production found?
a) Egypt
b) Mesopotamia
c) China
d) Greece
Answer: b) Mesopotamia

12. What is the primary ingredient in wine?
a) Grapes
b) Apples
c) Barley
d) Rice
Answer: a) Grapes

13. Which ancient civilization is credited with spreading wine production throughout Europe?
a) Roman
b) Greek
c) Egyptian
d) Persian
Answer: a) Roman

14. What does the fermentation process in winemaking convert sugar into?
a) Alcohol
b) Water
c) Vinegar
d) Carbon dioxide
Answer: a) Alcohol

15. Which type of wine is made without the skins of the grapes?
a) Red wine
b) White wine
c) Rose wine
d) Sparkling wine
Answer: b) White wine

16. What is the term for the swirling of wine in a glass to release its aroma?
a) Aeration
b) Decanting
c) Swirling
d) Tasting
Answer: c) Swirling

17. Which of the following is not a common grape variety used in winemaking?
a) Cabernet Sauvignon
b) Chardonnay
c) Merlot
d) Pinot Grigio
Answer: d) Pinot Grigio

18. Which country is the largest producer of wine in the world?
a) France
b) Italy
c) Spain
d) United States
Answer: b) Italy

19. What is the term for the study and science of wine and winemaking?
a) Winology
b) Viticulture
c) Oenology
d) Sommelier
Answer: c) Oenology

20. Which famous French wine region is known for its Chardonnay and Pinot Noir?
a) Bordeaux
b) Burgundy
c) Champagne
d) Rho^ ne Valley
Answer: b) Burgundy

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Skill Based Course Coordinator

Rashtrasant Tukadoji Maharaj Nagpur University

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Name of Subject: Fruit Processing & Wine Technology

Medium: English **Paper:** II **Marks Obtained:**

Centre Name: Science College Congress Nagar, Nagpur

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1.What is one of the climatic requirements for grape cultivation?
a) High humidity
b) Low sunlight
c) Specific temperature range
d) Sandy soil
Answer: c) Specific temperature range

2.Which method is mentioned as a propagation technique in the vineyard garden?
a) Grafting
b) Single root method
c) Hydroponics
d) Aerial layering
Answer: b) Single root method

3.What is a significant aspect of wine quality mentioned in the document?
a) Color intensity
b) Terroir
c) Alcohol content
d) Sugar content
Answer: b) Terroir

4. Which type of wine is not included in the wine production flow charts?
a) Red wine
b) Dessert wine
c) Sparkling wine

d) Port and sherry wine
Answer: b) Dessert wine

5. What is used in wine fermentation technology to influence pH?
a) Potassium sorbate
b) Sulphur dioxide
c) Citric acid
d) Calcium carbonate
Answer: b) Sulphur dioxide

6. Which of the following processes is involved in the preparation and preservation of fruit beverages?
a) Distillation
b) Staining, filtration, and clarification
c) Fermentation
d) Pasteurization
Answer: b) Staining, filtration, and clarification

7. What is a by-product of citrus fruit juice manufacturing?
a) Lactose
b) Starch
c) Citric acid
d) Gelatin
Answer: c) Citric acid

8. What is one of the uses of the pseudo-stem of the banana plant?
a) Production of wine
b) Extraction of oil
c) Production of fiber
d) Making syrup
Answer: c) Production of fiber

9. Which of the following is a practical activity related to citrus fruit juice?
a) Production of fiber from banana pseudo-stem
b) Self-life monitoring of citrus juice
c) Preservation of apple juice
d) Extraction of protein from banana leaves
Answer: b) Self-life monitoring of citrus juice

10. In the evaluation of banana for various products, which of the following is NOT listed as a use?
a) Cattle feed from banana fruits
b) Extraction of protein from banana leaves
c) Production of banana wine

d) Utilization of banana plant juice for energy production
Answer: c) Production of banana wine

11. What is the term for the residual sugar content in wine?
a) Acidity
b) Tannin
c) Alcohol content
d) Sweetness
Answer: d) Sweetness

12. Which country is the largest producer of wine in the world?
a) France
b) Italy
c) Spain
d) United States
Answer: b) Italy

13. What is the primary ingredient in wine?
a) Grapes
b) Apples
c) Barley
d) Rice
Answer: a) Grapes

14. What does the fermentation process in winemaking convert sugar into?
a) Alcohol
b) Water
c) Vinegar
d) Carbon dioxide
Answer: a) Alcohol

15. Which type of wine is made without the skins of the grapes?
a) Red wine
b) White wine
c) Rose wine
d) Sparkling wine
Answer: b) White wine

16. What climate grapes grow well at in?
a) Polar climate
b) Tropical climate
c) Mediterranean climate
d) Desert climate
Answer: c) Mediterranean Climate.

17. Which macronutrients is more essentials for propagation of wines.
a) Nitrogen
b) Iron
c) Zinc
d) Manganese
Answer: a) Nitrogen

18. Harvesting time of grapes
a) Early July to mid August
b) Late June to mid August
c) Mid August to late October
d) Late June to early September
Answer: b) late June to mid August

19. According to history where we found the evidence of wine.
a) France
b) Georgia
c) China
d) America
Answer: c) China

20. Which among these is not a type of wine.
a) Red wine
b) Chardonnay
c) White wine vinegar
d) Sparkling wine
Answer: c) White wine vinegar

Dr.Pranita Gulhane
Skill Based Course Coordinator

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Diploma Course Examination, Summer- 2019-20

Name of Subject: Fruit Processing & Wine Technology **First Year** Practical Exam

Medium: English **Marks Obtained:**

Centre Name: Science College Congress Nagar, Nagpur

Name of Student: **Class:** **Group:**

Duration: 3hr **Max Marks:** 40

Q.1 To prepare jelly from any seasonal fruit.		10
Q.2 To prepare lemon syrup.		10
Q.3 Viva-Voce		10
Q.4 Practical Record		10
	Total Marks	40

Science College, Congress Nagar, Nagpur SEAL

Dr.Pranita Gulhane
Skill Based Course Coordinator

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Diploma Course Examination, Summer- 2019-20

Name of Subject: Fruit Processing & Wine Technology **Second Year** Practical Exam

Medium: English **Marks Obtained:**

Centre Name: Science College Congress Nagar, Nagpur

Name of Student: **Class:** **Group:**

Duration: 3hr **Max Marks:** 40

Q.1 To isolate microbial spoilage from wine.	10
Q.2 To estimate alcohol in wine.	10
Q.3 Viva-Voce	10
Q.4 Practical Record	10
Total Marks	40

Science College, Congress Nagar, Nagpur. SEAL

Dr.Pranita Gulhane
Skill Based Course Coordinator

Shri Shivaji Education Society, Amravati's

SCIENCE COLLEGE

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Mentor College under 'PARAMARSH Scheme', UGC, New Delhi

U.G. DEPARTMENT OF MICROBIOLOGY

Skill-Based Course

Course Exam Name: Fruit Processing & Wine Technology

Second Year Paper-I

Name of Student: Aishwarya Mohatkar

Roll No.:

Session: 2019-20

Test Date: 13/11/2019 **Max. Marks: 40**

Obtained Marks: 37

Invigilator Signature

INSTRUCTIONS FOR FILLING THE SHEET
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5. Cutting and erasing on this sheet is not allowed
6. Do not use any stray marks on the sheet
7. Do not use marker or white fluid to hide the mark

WRONG METHODS CORRECT METHOD

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1	○	●	○	○	11	○	●	⊙	○	21	○	○	○	○	31	○	○	○	○	41	○	○	○	○
2	○	○	○	●	12	●	○	○	○	22	○	○	○	○	32	○	○	○	○	42	○	○	○	○
3	○	●	○	○	13	○	●	○	○	23	○	○	○	○	33	○	○	○	○	43	○	○	○	○
4	○	●	○	○	14	○	●	○	○	24	○	○	○	○	34	○	○	○	○	44	○	○	○	○
5	●	○	○	○	15	○	○	●	○	25	○	○	○	○	35	○	○	○	○	45	○	○	○	○
6	○	○	○	●	16	●	○	○	○	26	○	○	○	○	36	○	○	○	○	46	○	○	○	○
7	○	○	○	●	17	●	○	○	○	27	○	○	○	○	37	○	○	○	○	47	○	○	○	○
8	○	●	○	○	18	○	○	○	●	28	○	○	○	○	38	○	○	○	○	48	○	○	○	○
9	○	●	○	○	19	○	○	○	●	29	○	○	○	○	39	○	○	○	○	49	○	○	○	○
10	○	○	○	●	20	●	○	○	○	30	○	○	○	○	40	○	○	○	○	50	○	○	○	○

Science College, Congress Nagar, Nagpur. SEAL

Gulhane

Dr.Pranita Gulhane
Skill Based Course Coordinator

Shri Shivaji Education Society, Amravati's

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U.G. DEPARTMENT OF MICROBIOLOGY

Skill-Based Course

Course Exam Name: Fruit Processing & Wine Technology

Second Year Paper-II

Name of Student: Aishwarya Mahatkar

Roll No.: | | | | **Session: 2019-20**

Test Date: 14/11/2019 **Max. Marks: 40**

Obtained Marks: 38

Invigilator Signature

INSTRUCTIONS FOR FILLING THE SHEET
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6 Do not use any stray marks on the sheet
7 Do not use marker or white fluid to hide the mark

WRONG METHODS ⊗ ◉ ⊘ ✓ CORRECT METHOD ○ ○ ○ ●

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1	○	●	○	○	11	○	○	●	○	21	○	○	○	○	31	○	○	○	○	41	○	○	○	○
2	○	●	○	○	12	○	○	○	●	22	○	○	○	○	32	○	○	○	○	42	○	○	○	○
3	●	○	○	○	13	○	●	○	○	23	○	○	○	○	33	○	○	○	○	43	○	○	○	○
4	○	○	●	○	14	●	○	○	○	24	○	○	○	○	34	○	○	○	○	44	○	○	○	○
5	○	○	●	○	15	○	○	○	●	25	○	○	○	○	35	○	○	○	○	45	○	○	○	○
6	○	○	●	○	16	○	○	●	○	26	○	○	○	○	36	○	○	○	○	46	○	○	○	○
7	●	○	○	○	17	●	○	○	○	27	○	○	○	○	37	○	○	○	○	47	○	○	○	○
8	○	○	○	●	18	○	○	○	●	28	○	○	○	○	38	○	○	○	○	48	○	○	○	○
9	●	○	○	○	19	○	○	●	○	29	○	○	○	○	39	○	○	○	○	49	○	○	○	○
10	○	○	●	○	20	○	○	○	●	30	○	○	○	○	40	○	○	○	○	50	○	○	○	○

Science College, Congress Nagar, Nagpur. SEAL

Gulhane

Dr.Pranita Gulhane
Skill Based Course Coordinator

Shri Shivaji Education Society, Amravati's

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U.G. DEPARTMENT OF MICROBIOLOGY

Skill-Based Course

Course Exam Name: Fruit Processing & Wine Technology

Second Year Paper-I

Name of Student: Aditi Wazghade

Roll No.: | | | | **Session: 2019-20**

Test Date: 10/11/2019 **Max. Marks: 40**

Obtained Marks: 36

Invigilator Signature

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WRONG METHODS CORRECT METHOD

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1	●				11		●			21					31					41				
2				●	12	●				22					32					42				
3	●				13	●				23					33					43				
4				●	14	●				24					34					44				
5			●		15		●			25					35					45				
6	●				16			●		26					36					46				
7				●	17				●	27					37					47				
8				●	18		●			28					38					48				
9	●				19			●		29					39					49				
10			●		20		●			30					40					50				

Science College, Congress Nagar, Nagpur SEAL

Dr.Pranita Gulhane
Skill Based Course Coordinator

Shri Shivaji Education Society, Amravati's

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U.G. DEPARTMENT OF MICROBIOLOGY

Skill-Based Course

Course Exam Name: Fruit Processing & Wine Technology

Second Year Paper-II

Name of Student: Aditi Wanghade

Roll No.:

Session: 2019-20

Test Date: 11/11/2019 **Max. Marks: 40**

Obtained Marks: 38

Invigilator Signature

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WRONG METHODS CORRECT METHOD

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1	○	○	●	○	11	○	○	○	●	21	○	○	○	○	31	○	○	○	○	41				
2	○	●	○	○	12	○	●	○	○	22	○	○	○	○	32	○	○	○	○	42				
3	○	●	○	○	13	●	○	○	○	23	○	○	○	○	33	○	○	○	○	43				
4	○	●	○	○	14	●	○	○	○	24	○	○	○	○	34	○	○	○	○	44				
5	○	●	○	○	15	○	●	○	○	25	○	○	○	○	35	○	○	○	○	45				
6	○	●	○	○	16	○	○	●	○	26	○	○	○	○	36	○	○	○	○	46				
7	○	○	●	○	17	●	○	○	○	27	○	○	○	○	37	○	○	○	○	47				
8	○	○	●	○	18	○	●	○	○	28	○	○	○	○	38	○	○	○	○	48				
9	○	●	○	○	19	○	○	○	●	29	○	○	○	○	39	○	○	○	○	49				
10	○	○	●	○	20	○	○	●	○	30	○	○	○	○	40	○	○	○	○	50				

Science College, Congress Nagar, Nagpur. SEAL

Gulhane

Dr.Pranita Gulhane
Skill Based Course Coordinator

First Year Diploma in Fruit processing & Wine Technology
Session 2019-2020
MARK LIST

Sr. No.	Name of Student	Marks Obtained out of 40 Paper I (Theory)	Marks Obtained out of 40 Paper II (Theory)	Marks Obtained out of 60 (Practical)	Marks Obtained out of 20 (Seminar)	Marks Obtained out of 20 (Project)	Marks Obtained out of 20 (Field Visit)	Total Marks Obtained out of 200 (Grand Total)
1.	AishwaryaS.Mohatkar	38	38	58	20	20	20	194
2.	Aniket S. Adase	38	38	58	20	20	20	194
3.	Anjali S. Lokhande	35	39	55	20	20	20	189
4.	Ankit M. Pajai	34	35	57	20	20	20	186
5.	Anuradha S. Paralkar	33	36	56	20	20	20	185
6.	Anushree Muley	35	35	57	20	20	20	187
7.	Atharva L. Rathod	38	34	58	20	20	20	190
8.	Chetna R. Choudhari	38	40	55	20	20	20	193
9.	Dipti M. Rangu	35	36	56	20	20	20	187
10.	Isha V. Arghode	36	40	58	20	20	20	194
11.	Kalpana S. Patra	40	39	57	20	20	20	196
12.	Kinjal S. Kulkarni	40	40	55	20	20	20	195
13.	Mahek R. Burchunde	35	35	56	20	20	20	186
14.	Muskan Verma	36	34	57	20	20	20	187
15.	Neha D. Mahant	38	32	58	20	20	20	188
16.	Nikita N. Motwani	35	34	55	20	20	20	184
17.	Prachi B. Navghare	36	36	56	20	20	20	188
18.	Prachi K. Kapse	37	35	57	20	20	20	189
19.	Rajashree S. Hatwar	39	34	58	20	20	20	191
20.	Rashmi K. Agashe	36	36	57	20	20	20	189
21.	Rohan Deshmukh	37	36	56	20	20	20	189
22.	Saptaparna Roy	37	38	58	20	20	20	193
23.	Sarvesh C. Bagde	36	35	55	20	20	20	186
24.	Sharwari D. Halmare	40	40	55	20	20	20	195
25.	Shivani S. Deshpande	30	34	57	20	20	20	181
26.	Shreya Zilpe	32	34	56	20	20	20	182
27.	Shruti P. Renge	40	40	58	20	20	20	198
28.	Swati R. Sharma	37	38	55	20	20	20	190
29.	Teneshwari Hirapure	39	34	57	20	20	20	190
30.	Utkarsha Tondare	37	38	56	20	20	20	191
31.	Vedanti V. Kali	36	36	57	20	20	20	189
32.	Yashoda R. Wade	34	40	58	20	20	20	192

Dr.Pranita Gulhane
Skill Based Course Coordinator

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S

SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR

Department of Microbiology

Skill-Based Diploma Course: Fruit Processing & Wine Technology

Session 2019-2020

List of the Students: Skill Based Diploma Course- Fruit Processing & Wine Technology Session 2019-2020 (IstYear)

Sr.No.	Name of Student	Signature
1.	AishwaryaS.Mohatkar	
2.	Aniket S. Adase	
3.	Anjali S. Lokhande	
4.	Ankit M. Pajai	
5.	Anuradha S. Paralkar	
6.	Anushree Muley	
7.	Atharva L. Rathod	
8.	Chetna R. Choudhari	
9.	Dipti M. Rangu	
10.	Isha V. Arghode	
11.	Kalpana S. Patra	
12.	Kinjal S. Kulkarni	
13.	Mahek R. Burchunde	
14.	Muskan Verma	
15.	Neha D. Mahant	
16.	Nikita N. Motwani	
17.	Prachi B. Navghare	
18.	Prachi K. Kapse	
19.	Rajashree S. Hatwar	
20.	Rashmi K. Agashe	
21.	Rohan Deshmukh	
22.	Saptaparna Roy	

23.	Sarvesh C. Bagde	
24.	Sharwari D. Halmare	
25.	Shivani S. Deshpande	
26.	Shreya Zilpe	
27.	Shruti P. Renge	
28.	Swati R. Sharma	
29.	Teneshwari Hirapure	
30.	Utkarsha Tondare	
31.	Vedanti V. Kali	
32.	Yashoda R. Wade	

SEAL

Dr. Pravita Gulhane
Department of Microbiology
Science College, Congress Nagar,
NAGPUR.

Second Year Diploma in Fruit processing & Wine Technology

Session 2019-2020 MARK LIST II YEAR

Sr. No.	Name of Student	Marks Obtained out of 40 Paper I (Theory)	Marks Obtained out of 40 Paper II (Theory)	Marks Obtained out of 60 (Practical)	Marks Obtained out of 20 (Seminar)	Marks Obtained out of 20 (Project)	Marks Obtained out of 20 (Field Visit)	Total Marks Obtained out of 200 (Grand Total)
1.	Aachal N.Vedi	34	35	55	20	20	20	184
2.	Aditi P.Warghade	36	38	57	20	20	20	191
3.	Aishwarya M.Ghatole	38	39	58	20	20	20	195
4.	Aishwarya R.Asare	34	38	59	20	20	20	191
5.	Akansha A.Datke	35	36	57	20	20	20	188
6.	Akansha A.Singh	38	39	58	20	20	20	195
7.	Ambika V.Pote	37	36	58	20	20	20	191
8.	Azmiya Sadaf	36	39	56	20	20	20	191
9.	Bhairavi S.Pandit	35	36	57	20	20	20	188
10.	Chetana V.Tikkas	38	39	58	20	20	20	195
11.	Damini D.Bramhankar	37	38	56	20	20	20	191
12.	Ankita D.Jadhao	39	40	58	20	20	20	197
13.	Ankita K.Patankar	35	36	57	20	20	20	188
14.	AnkitaV.Vishwakarma	38	39	58	20	20	20	195
15.	Anuja C.Chandane	34	35	55	20	20	20	184
16.	Ashitam.Sharma	36	38	57	20	20	20	191
17.	Ashwini V.Kature	38	39	58	20	20	20	195
18.	Avantika S.Sisodia	34	38	59	20	20	20	191
19.	Dharita M.Joshi	35	36	57	20	20	20	188
20.	Diksha D.Zamre	38	39	57	20	20	20	194
21.	Dipali G.Panchabhai	37	37	56	20	20	20	190
22.	Divya G.Dongre	36	36	55	20	20	20	187
23.	Ekta H.Zade	35	36	58	20	20	20	186
24.	Gauri S.Pophali	38	37	56	20	20	20	191
25.	Gayatri V.Tonpe	36	36	56	20	20	20	188
26.	Harsha S.Raut	34	38	57	20	20	20	189
27.	Harshada V.Thawari	35	38	58	20	20	20	191
28.	HitakshiM.Nagbhidkar	38	39	59	20	20	20	196
29.	Isha O.Chauhan	37	38	57	20	20	20	192
30.	Kajal G.Pund	36	37	58	20	20	20	191
31.	Kalyani A.Wagh	35	36	56	20	20	20	187
32.	Kalyani M. Ahkare	38	39	57	20	20	20	194

Dr.Pranita Gulhane
Skill Based Course Coordinator

List of the Students: Skill Based Diploma Course- Fruit Processing & Wine Technology Session 2019-2020 (IInd Year)

Sr.No.	Name of Student	Signature
1.	Aachal N.Vedi	
2.	Aditi P.Warghade	
3.	Aishwarya M.Ghatole	
4.	Aishwarya R.Asare	
5.	Akansha A.Datke	
6.	Akansha A.Singh	
7.	Ambika V.Pote	
8.	Azmiya Sadaf	
9.	Bhairavi S.Pandit	
10.	Chetana V.Tikkas	
11.	Damini D.Bramhankar	
12.	Ankita D.Jadhao	
13.	Ankita K.Patankar	
14.	Ankita V.Vishwakarma	
15.	Anuja C.Chandane	
16.	Ashitam.Sharma	
17.	Ashwini V.Kature	
18.	Avantika S.Sisodia	
19.	Dharita M.Joshi	
20.	Diksha D.Zamre	
21.	Dipali G.Panchabhai	
22.	Divya G.Dongre	
23.	Ekta H.Zade	
24.	Gauri S.Pophali	
25.	Gayatri V.Tonpe	
26.	Harsha S.Raut	
27.	Harshada V.Thawari	
28.	HitakshiM.Nagbhidkar	

29.	Isha O.Chauhan	Ichouhan.
30.	Kajal G.Pund	Kajal.
31.	Kalyani A.Wagh	Kwagh.
32.	Kalyani M. Ahkare	Ahkare.

SEAL

Dr. Pranita Gulbare
Department of Microbiology
Science College, Congress Nagar,
NAGPUR.

Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

[Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016(Mah. Act No. VI of 2017)]

University Skill Development Centre

(under Board of Lifelong Learning and Extension)

Certificate

No. .....

Shri/Smt./Ku. Aditi Warghade ..... is awarded with Certificate on successful completion of the course titled Fruit Processing and Wine Technology ..... in session 2019-20 ..... under ***Jeevan Shikshan Abhiyan*** conducted for ***45 hours*** from 06.09.2019 to 07.11.2019 by the ***Board of Lifelong Learning & Extension*** in collaboration with Department of Botany, ***S.S.E.S. Amt's Science College Congress Nagar, Nagpur, 440012.***

He/She has passed the Examination with A ..... Grade

Total Credits Earned : 01

Principal	Course Co-ordinator	Director
SSES Amt's Science College Congress Nagar, Nagpur-12	SSES Amt's Science College Congress Nagar, Nagpur-12	Board of Lifelong Learning and Extension, RTMNU, Nagpur

Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

[Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016(Mah. Act No. VI of 2017)]

University Skill Development Centre

(under Board of Lifelong Learning and Extension)

Certificate

No. .....

Shri/Smt./Ku. Aishwarya Mohatkar is awarded with Certificate on successful completion of the course titled Fruit Processing and Wine Technology in session 2019-20 under **Jeevan Shikshan Abhiyan** conducted for **45 hours** from 03.09.2019 to 09.11.2019 by the **Board of Lifelong Learning & Extension** in collaboration with Department of Botany, **S.S.E.S. Amt's Science College Congress Nagar, Nagpur, 440012.**

He/She has passed the Examination with A Grade

Total Credits Earned : 01

Principal	Course Co-ordinator	Director
SSES Amt's Science College Congress Nagar, Nagpur-12	SSES Amt's Science College Congress Nagar, Nagpur-12	Board of Lifelong Learning and Extension, RTMNU, Nagpur

SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR
UG Department of Microbiology
Skill Based Diploma Course: Fruit Processing & Wine Technology
Session 2019-2020
Feedback Form

Q1. How would you rate the overall quality of the Diploma Course: Fruit Processing & Wine Technology?

A. Excellent	18
B. Good	12
C. Average	2
Total	32

Q.2 How well did the Diploma Course: FruitProcessing & Wine Technology meet your expectations?

A. Exceeded expectations	4
B. Met expectations	28
C. Below expectations	0
Total	32

Q.3 How effective were the courseinstructors in delivering the Diploma Course: Fruit Processing & WineTechnology?

A. Very effective	31
B. Effective	1
C. Ineffective	0
Total	32

Q.4 How likely are you to recommend theDiploma Course: Fruit Processing & WineTechnology to others?

A. Very likely	26
B. Likely	5
C. Unlikely	1
Total	32

Q.5 How satisfied are you with the practicalsessions of the Diploma Course: Fruit Processing & Wine Technology?

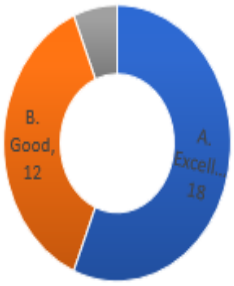
A. Very satisfied	27
B. Satisfied	3
C. Dissatisfied	2
Total	32

Feedback Form Responses

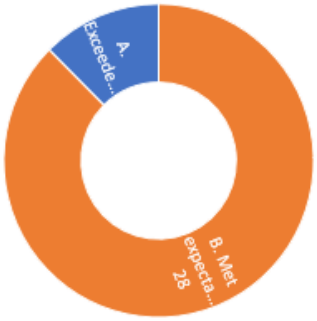
UG Department of Microbiology

Skill Based Diploma Course: Fruit Processing & Wine Technology Session 2019-2020

Que. 1 How would you rate the overall quality of the Diploma Course: Fruit Processing & Wine Technology

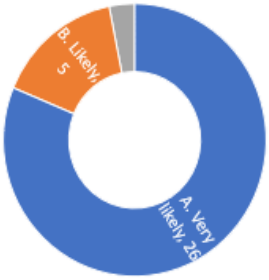


Que. 2 How well did the Diploma Course - Fruit Processing & Wine Technology meet your expectations?

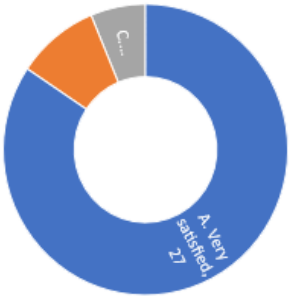


Que. 3 How effective were the course instructors in delivering the Diploma Course Fruit Processing & Wine Technology?

Que. 4 How likely are you to recommend the Diploma Course: Fruit Processing & Wine Technology to others?



Que. 5. How satisfied are you with the practical sessions of the Diploma Course: Fruit Processing & Wine Technology?



Dr.Pranita Gulhane
Skill Based Course Coordinator

Dr. Amitabh Halder
IQAC Coordinator
Internal Quality Assurance Cell (IQAC)
S. S. E. S. A. Science College
Congress Nagar, Nagpur.

Prof. Mahendra Dhore
Principal
Principal
S. S. E. S. Amravati's
Science College, Nagpur.