#### S.S.E.S. Amravati's Science College, Congress Nagar, Nagpur Department of Chemistry

## Certificate Course in Adulteration (Batch -1) 2019-2020

#### **Notice**

Date 25<sup>th</sup> July 2019

All the students of BSc I, II, and III yr are hereby informed that Department of Chemistry is started value added Certificate Course in Adulteration. Admission is open for Certificate Course.

Eligibility-BSc 1<sup>st</sup>, BSc 2<sup>nd</sup> and BSc 3<sup>rd</sup> year students

**Duration** – 30 Hrs (10 weeks), **Date of Course**: 2<sup>th</sup> Aug 2019 to 12<sup>th</sup> Oct 2019

Note: First come first serve

#### Registration is free

For Registration please contact

Dr Mrs Yogita Meshram (9423616167)

Department of Chemistry

Dr Mrs Yogita Meshram Course Coordinator

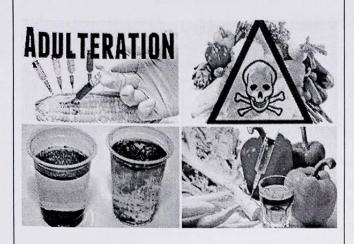
Course Coordinator
S.S.E.S.A.'s Science College
Nagpur

Dr. R. U. Khope Head

Department of Chemistry

Professor & Head Department of Chemistry, Shri Shivaji Science College Congress Nagar, Nagpur.

#### **Certificate Course In Adulteration**



#### **Course Objectives:**

- To understand the basic of adulteration
- To get acquaint with different adulterants
- To know the methods to check adulterants
- To get the information about auditing agency such BIS and AGMARK
- To develop strategies for educating consumer



Department of Chemistry
SSES Amt's Science College Congress Nagar
Nagpur

## Free Certificate Course for College Students

**Duration – 30 Hours (10 Weeks)** 

Date of Course: 2<sup>st</sup> Aug 2019 to 12<sup>th</sup> Oct 2019

Process of Registration- First-come, first –serve

Adulteration of food is the intentional deterioration of the quality of food offered for sale by either the addition or substitution of an inferior substance or by the omission of a valuable ingredient. Economically motivated adulteration is the intentional adulteration of food for financial gain, and has enormous public implications, making it an important issue in food science. It is difficult to find food that is free from adulteration. Consumption of adulterated food contributes to numerous health issues in society, ranging from mild to life threatening. Therefore, detection adulteration in food is essential to ensure the safety of the food we consume. The main aims of adulteration course is designed to equip students with necessary skills and knowledge to ensure food safety and integrity, thereby contributing to public health and food industry's standards

Last Date of Registration: 30<sup>th</sup> July 2019 For Registration Contact: Dr Yogita Meshram -Course Co-ordinator To, The Principal SSES Amt's Science College, Congress Nagar, Nagpur-12

Subject: For permission to conduct the add on courses in the department

Respected Sir,

This is to request you that, the teachers of our Chemistry department have prepared the syllabus and modules of the 30 hours certificate courses for the session 2019-2020.

The details of the course module, syllabus and time table is submitted here with.

Hence please permit to run the add on courses and oblige me.

Thanking you

13.6.2019

Yours sincerely

(Prof. R. J. Khope)

Head Department of Chemistry, Department of Chemistry, Shri Shivaji Science College Congress Nagar, Nagpur.

Permitted

#### S.S.E.S. Amravati's Science College, Congress Nagar, Nagpur Certificate Course in Adulteration Department of Chemistry

2<sup>nd</sup> Aug 2019 to 12<sup>th</sup> Oct 2019 -Batch -1

Session 2019-2020

#### Report

India, is a fast developing country faces significant challenges in meeting food demands while maintaining quality. Consumption of adulterated food contributes to numerous health issues in society, ranging from mild to life threatening. Therefore, detection of adulteration in food is essential to ensure the safety of the food we consume. The main aims of adulteration course are to equip students with necessary skills and knowledge to ensure food safety and integrity, thereby contributing to public health and food industry's standards.

To understand basic of adulteration and generate awareness among the students about extent of adulteration, Department of Chemistry started **Certificate Course in Adulteration.** This 30-hour course (10weeks) was designed for BSc students and ran from2<sup>nd</sup> Aug 2019 to 12<sup>th</sup> Oct 2019. This course was fully free up cost. Around fifty-fivestudents were enrolled in this course, where they learned about adulteration and adulterants and methods to detect them. Students brought various samples to test for adulterants. Students actively and enthusiastically completed the course and achieved grades and certificates by writing MCQ based examination. Through thisCertificate Course, students gained valuable insights into food adulteration, making them better prepared to contribute to public health and uphold industry standards. The students' enthusiasm and participation highlight the course's success and the significance of educational initiatives in addressing food safety issues.

#### **Action Taken Report:**

Batch of 54 students of BSc I, II and III yrs were benefited by the certificate course in Adulteration and enriched their knowledge for the purpose of food safety, Integrity and contributing to public health and food industry standards.

Dr Yogita Meshram

Course Co-ordinator

Course Coordinator 5.S.E.S.A.'s Science College Nagpur

#### SSES Amti's Science College Congress Nagar Nagpur

## Department of Chemistry 2019-2020

Course Title: Certificate course in Adulteration

Course Coordinator: Dr Yogita Meshram

**Duration:** 30 Hrs (10 weeks), **Date of Course**: 2<sup>st</sup> Aug 2019 to 12<sup>th</sup> Oct 2019

#### **About Course:**

Every living thing requires food to survive. Nutritious, Clean, fresh, and healthy foods are important to human health. India, as a fast developing country faces significant challenges in meeting food demands while maintaining quality. To maximize profits, various counterfeits are used in food production. Adulteration of food is the intentional deterioration of the quality of food offered for sale by either the addition or substitution of an inferior substance or by the omission of a valuable ingredient. Economically motivated adulteration is the intentional adulteration of food for financial gain, and has enormous public health implications, making it an important issue in food science. Almost every food, including milk and dairy products, fats and oils, fruits and vegetables, grain foods, coffee, tea, honey, etc., is susceptible to adulteration. It is difficult to find food that is free from adulteration. Consumption of adulterated food contributes to numerous health issues in society, ranging from mild to life threatening. Therefore, detection of adulteration in food is essential to ensure the safety of the food we consume. To provide consumers with food that is free of adulterants, various detection methods such as physical, chemical, biochemical, and molecular techniques are used to identify adulterants in food. The main aim of adulteration course is designed to equip students with necessary skills and knowledge to ensure food safety and integrity, thereby contributing to public health and food industry's standards.

#### **Objectives:**

- To understand basic of adulteration
- To get acquaint with different adulterants
- To know the methods to check adulterants
- To get the information about auditing agency such BIS and AGMARK
- To develop strategies for educating consumer

### Course Learning Outcome: After completion of course, students will be able to

- 1. Acquire knowledge of various composition of food
- 2. Understand the food adulteration processes

(3)

Instructional Strategies: Theory class, Practical, Video clips, Models etc.

Evaluation Strategies: Oral discussions and Final MCQ examination.

The Structure of Syllabus and system of evaluation –

Course	Theory paper and Practical	Marks
Certificate course in Adulteration	Theory paper: Assessment will be done by conducting MCQ based examination having 40 questions, each carries 2 marks	80
(30Hrs)	Practical Examination: Evaluation will be based on the performance of Practical	20
	Total Marks	100

Dr Mrs Yogita Meshram

Course Coordinator
Course Coordinator
S.S.E.S.A.'s Science College
Nagpur

Dr M. Principal S. S. E. S. Amravati's Science College, Nagpur



#### SSES Amti's Science College Congress Nagar Nagpur Department of Chemistry

#### **Certificate course in Adulteration**

(30 Hrs) 10 weeks **2019-2020 SYLLABUS** 

#### Theory:

**Unit I**: Introduction to Adulteration-Definition, Types of adulteration -Intentional, incidental, Causes and methods of food adulteration. General Impact on Human Health.

Unit II: Food additives- Definition, classification, role of additives in processed foods. Safe levels of additive uses. Mitigation measures for addressing food adulteration

Unit III: Adulteration of food products and Methods of their Detection, Information about agency of Auditing and accreditation (BIS, QCI, AGMARK, ISI etc).

**Unit IV**: Composition of products and adulterant and simple tests to check the adulterants in the following Foods- Milk, Edible Oil, Sugar, honey, Tea Turmeric powder, Ghee, Chili powder, Coffee, vegetables water melon, Mangoes

**Practical Course:** Qualitative analysis of adulterants in different foods such as Milk, Honey, Turmeric powder, chili powder, Oil, Coriander powder, Coffee powder etc

**Distribution of Marks** (100M): Each unit carries 20 marks (20\*4=80) and practical carries 20 marks

Dr. Yogita K Meshram Course coordinator

Course Coordinator
-E.S.A.'s Science College
Nagpur

Dr. R. U. Khope

Head, Department of chemistry

#### Certificate course in Adulteration (30Hrs)

Session 2019-2020 - Weak wise Teaching Plan

Batch-1

Week	Lectur	Syllabus (Teaching Plan)
Week One	1	Introduction to Adulteration
	2	Importance of Course, Chemistry behind this course
Week Two	3	Theory of adulteration
	4	Types of adulteration and their examples
Week Three	5	Food additives- Definition, classification, role of additives in processed foods.
	6	General Impact on human health
Week Four	7	Mitigation measures for addressing food adulteration
	8	Adulteration of food products and Methods of their Detection
Week Five	9	Information about agency of Auditing and accreditation (BIS, QCI, AGMARK etc)
	10	Composition of adulterant and their effect on food
Week Six	11	Composition of products and adulterant in the following Foods-Milk, Edible Oil
H. AL.	12	Demonstration
Week Seven	13	Composition of products and adulterant in the following Foods-Chili powder and Turmeric powder
	14	Composition of products and adulterant in the following Foods-Ghee and different vegetable oils
Week Eight	15	Adulteration in Sugar, honey and method of detection
	16	Demonstration
Week Nine	17	Adulterant in Coffee powder and effect on human being
	18	Discussion
Week Ten	19	MCQ based exam and Practical Examination
	20	Result declaration
7		All and the second seco

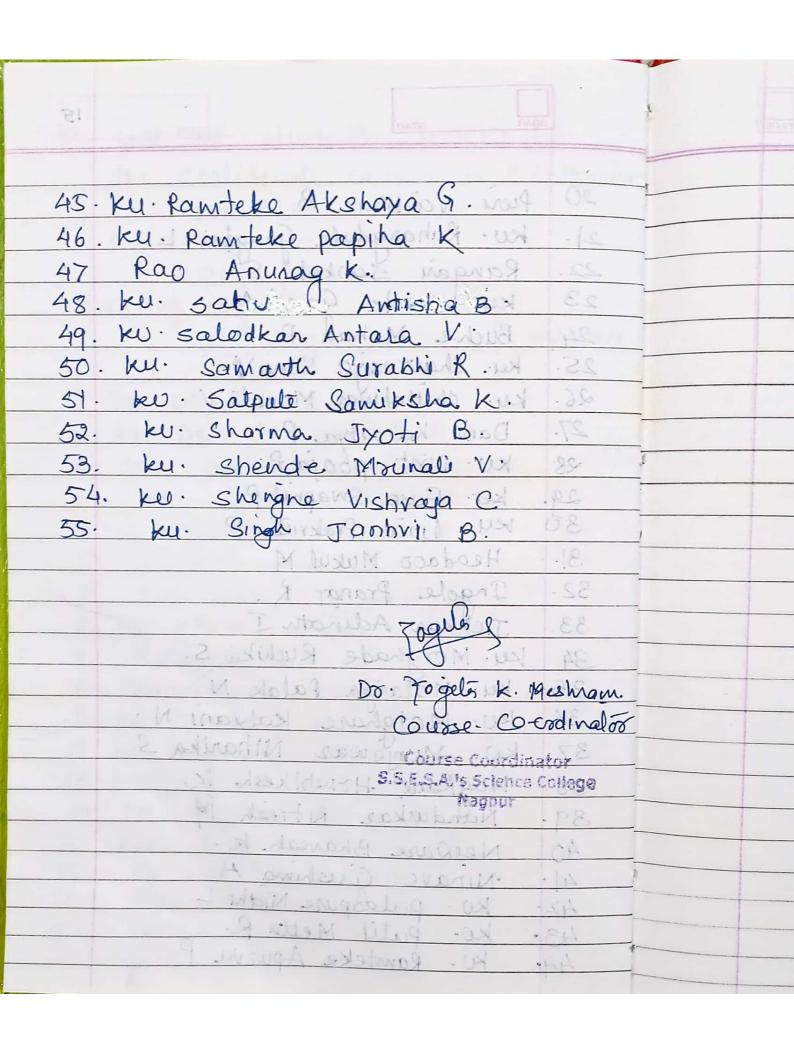
Dr Yogita Meshram Course coordinator

Course Coordinator
S.S.E.S.A.'s Science College
Nagpur

Dr. R. U. Khope, Head Department of Chemistry

144			15
LIST of students enrolled for		DATE.	PASE
the certificate course in Adulteration	,		
Batch - 1.	20	Pierr Vaiebhay B.	45.
C3042,) 10 Week	21.	ku. Rahangdale Gangorie L.	46.
2019-2020	22.	ku-Rahangdale Gangdrie L. Rangari sanket S	47
Nate of course	23	ku. Bhosle Gouri A	48.
2nd Aug 2019 to 12th oet 2019	24.	Buche Monal P	
	25.		50.
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2. ku. Dekhale kéhitija R	27.	Danil Kaivalya. P. 1012	
3. Ku. Deshnukh Nikela H.	28.	kw. Dixit phoja P	53
4. Ku. Cjaybe Shruti R.	29.	Ket. Fuse Swappiel P.	54.
5. Gauskar Nehal V.	30	bey Gain Prakruti P	35
6. Ginthar Harshad S.		Headaoo Mukul M	
7. (Ku. Hatwar Tuganti V		Ingole Pranay R.	5
g. KU. Hatwar Pradi J	33.	Jichkar Adinath J	
9. Hadaoo Parth G.	34	ku. Morghade Ruchika S.	-
10. Jamunkaz Lokesh S.	35	ku Motariya Palak N	
11. Ku. Junchare Aachal G.	36.		. 7
12. kw Nagrare Aaishwarya S	37.	ku. Munjewar Niharika S	
13. kv. Nignulkar Rudali T.		Nagrack Horshikesh K.	
14. Ku. Hirwap Ritika K.	39.	Nandurkar Ritresh M	
15. ku. Pakhamade chewla.	40	Neware Bhavesh k.	
16. Parchar Hemanshu. A.	4.	·Ninave Geishima A	
17. parshuramkan prajmal S		ku palaspure Nidh L	
18. Pous on Juyon G. 19. Punekar Sahil R.	43		
19. Punekan Usahul K.	44	. Ku. Ramteke Apuzva P	

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## S.S.E.S. Amravati's Science College, Congress Nagar, Nagpur Department of Chemistry Certificate course in Adulteration Batch -1 2019-2020

#### **Time Table**

Days	Time	Theory					
Fri	4.00 pm to 5 pm	Theory					
Sat	4.00 pm to 5 pm	Theory					
Sat	5.00pm to 6pm	Practical					

Dr. Yogita K Meshram Course Coordinator

Course Coordinator S.S.E.S.A.'s Science College Nagpur Dr. R. U. Khope

Head, Department of chemistry

Batch - P Shri Shivaji Education Society Amravati's Science College, Nagpur ng 2019 to 12th of 2019 **Department of Chemistry** Certificate Course in Adulteration 2019-2020 Theory / Practical Manusination Attendance Sheet 8 9 10 11 12 13 14 15 16 17 (18 19 20 (21) 22 23 6 01/00 01/00 01/00 S.N RN 17 17 23 24 24 30 8 8 8 8 8 Name of Students 10 16 8 88 8888 1 1 Ku Dhadwe Sakshi S P P 2 2 Ku Dhekale Kshitija R P 3 3 Ku Deshmukh Nikita H 4 4 Ku Gajbe Shruti R 5 5 Gaurkar Nehal V 6 6 Giratkar Harshad S 7 7 Ku Hatwar Yuganti V 8 8 Ku Hatwar Prachi J 9 9 Hedaoo Parth G P 10 10 Jamunkar Lokesh S P 11 11 Ku Junchare Aachal G 12 P 12 Ku Nagrare Aaishwarya S 13 13 Ku Nirgulkar Rudali T P 14 14 Ku Nirwan Ritika K 15 15 Ku Pakhmode Shweta U 16 16 Parihar Himasnshu A 17 Parshuramkar Prajwal S 17 18 Pawar Gunjan G 18 19 19 Punekar Sahil R 20 20 Puri Vaibhav B PP 21 21 Ku Rahangdale Gangotri L PA 22 22 Rangari Sanket S 0 P 23 Ku Bhosle Gouri A Name of co-ordinator: Dr. Togela k. Mesham. S.S.E.S.A.'s Science College Nagnur

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26	26	Ku Chittalwar Monali V	P		P	P		-	PF		+-	P	P	P	P	P	R	A	P		PP	P	P	P	A	P	P	PI	P		
27	27	Dani Kaiwalya P	TP	P	P	P			PI	-	P	-	P	A	P	P	P	P	P	PI		P	P	P	P	P	P	P	PP		1.4
28	28	Ku Dixit Pooja P	P	-	P	P	P	_	PP		P	P	P	P	P	p	0	p	0	~	P	P	r	P	P	P	P	P	PP		
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30	30	Ku Gaur Prakruti P	P	_	P	P	1	_	PP	P	P	P	P	P	0	P	P	P	PP	f	P	P	P	K	P	P	P	P	PP		
31	31	Hedaoo Mukul M	P	_	P	A	P	PI	P	P	A	P	P	P	P	A	P	P	PI	2 1	P	P	P	P	P	P	A	PI	AP		- 11
32	32	Ingole Pranay R	P	P	P	P		0	_		P	P	P	P	P	P	p	P	1	PF	_	P	P	P	P	P	P	/ /	PA		1111
33	33	Jichkar Adinath J	P	P	P	Y	P	PI	_	_	P	P	P	p	P	P	P	P	P	PP	-	P	P	₽	P	P	P	'	PP		
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36	36	Ku Motghare Kalyani N	P	P	P	P	_	P	P	P	P	P	P	P	P	P	P	P	P	P F	P	P	P	P	P	A	P	A	PP		
37	37	Ku Munjewar Niharika S	P	P	P	P	PI	P	P	P	P	P	P	P	P	P	p	P	PI	2 1	P	P	A	P	P	P	P	PI	PP		
38	38	Nagarnaik Hrishikesh K	P	A	P	P	PF	_	_	P	P	P	P	P	P	P	P	P	PI	A I	P	P	P	P	A	P	P	P	AP		
39	39	Nandurkar Ritesh M	P	p	P	1	PA		P	P	P	P	P	P	P	A	p	A	P	_	1	P	P	A	P	P	P	7	PP		
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41	41	Ku Ninave Grishma A	P	P	P	P	PP	_	-	P	P	P	P	P	2		P	P	AP	P	+ P	P	P	P	P	P	P	PI	P		
42	42	Ku Palsapure Nidhi L	P	P	P	P	PI	P	P	P	ρ	-	P	P	P	PI	P	P	PI	2 6	P	P	P	P	P	P	P		PP		
43	43	Ku Patil Metta R	P	P	P	P	PP	-	P	P	P	P	_	P	0		P	_	PP			ρ	P		P	$\overline{}$	P	_	PA		0
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Batch I 2nd Aug 2019 to 12 2019

## Shri Shivaji Education Society Amravati's Science College, Nagpur Department of Chemistry Contificate Course in Adultoration, 2010, 2020

Certificate Course in Adulteration 2019-2020

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49	Ku Salodkar Antara V	P	P	p	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	p	P	P	P	P	P	A	P	D	
50	Ku Samarth Surabhi R	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	D	P	P	4	P	P	A	P	P	
51	Ku Satpute Samiksha K	P	P.	P	A	P	P	P	A	P	P	P	P	9	P	P	0	P	A	P	P	P	D	P	P	P	P	P	P	P	P	
52	Ku Sharma Jyoti B	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	A	1	P	P	
53	Ku Shende Mrunali V	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	
54	Ku Shingne Vishvaja C	P	P	P	P	P	P	P	P	P	P	P	₽	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	T	P	
55	Ku Singh Janhvi B	р	ρ	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	T	P	P	P	h	P	P	p	P	P	P	

Dr. Jogela k. Mesman

Course Coordinator S.S.E.S.A.'s Science College Nagpur

### S.S.E.S. Amravati's Science College, Congress Nagar, Nagpur Certificate Course in Adulteration

Department of Chemistry 2019-2020

#### Notice

Date 10th Oct 2019

All the enrolled students of Certificate course are hereby informed that theory examination for Certificate course in Adulteration will be held on 18th Oct 2019 at 2.00 to 3.30 pm. All Students should report in the Department of Chemistry ten minutes before the examination time.

Dr Yogita Meshram

Course coordinator

Course Coordinator S.S.E.S.A.'s Science College Nagour

#### Shri Shivaji Education Society Amravati's Science College, Nagpur Department of Chemistry

#### Certificate Course in Adulteration 2019-2020

Theory Examination Attendance Sheet

-

Batch-1

18/10/2019

S.N	Roll No		Name of Stud	ents		Signature
1	1	Ku	Dhadwe	Sakshi	S	50 hadwei
2	2	Ku	Dhekale	Kshitija	R	Kalinie
3	3	Ku	Deshmukh	Nikita	Н	Nikis
4	4	Ku	Gajbe	Shruti	R	CO-
5	5		Gaurkar	Nehal	V	Nebale
6	6		Giratkar	Harshad	S	10-
7	7	Ku	Hatwar	Yuganti	V	YHatway
8	8	Ku	Hatwar	Prachi	J	South -
9	9		Hedaoo	Parth	G	Porther
10	10		Jamunkar	Lokesh	S	Laterh
11	11	Ku	Junchare	Aachal	G	dochal
12	12	Ku	Nagrare	Aaishwarya	S	Hishwarya
13	13	Ku	Nirgulkar	Rudali	T	Rudalia
14	14	Ku	Nirwan	Ritika	K	Philip
15	15	Ku	Pakhmode	Shweta	U	Shwetci.
16	16		Parihar	Himasnshu	A	Humany.
17	17		Parshuramkar	Prajwal	S	Frazivel
18	18		Pawar	Gunjan	G	Guyen
19	19		Punekar	Sahil ,	R	Sahil
20	20		Puri	Vaibhav	В	frene
21	21	Ku	Rahangdale	Gangotri	L	Gangatri
22	22		Rangari	Sanket	S	Sanket.
23	23	Ku	Bhosle	Gouri	A	George
24	24		Buche	Mohan	P	ABSENT
25	25	Ku	Chaurasiya	Sonu	V	Som
26	26	Ku	Chittalwar	Monali	V	Morale.
27	27		Dani	Kaiwalya	P	1 Dani
28	28	Ku	Dixit	Pooja	P	Poolain
29	29	Ku	Fuse	Swapnil	P	1 File
30	30	Ku	Gaur	Prakruti	P	Pradut
31	31		Hedaoo	Mukul	M	Milan 4
32	32		Ingole	Pranay	R	Track
33	33		Jichkar	Adinath	J	Arichha
34	34	Ku	Morghade	Ruchika	S	ATichka
35	35	Ku	Motariya	Palak	N	( hadst-
36	36	Ku	Motghare	Kalyani	N	

S.S.E.S.A.'s Science College Nagpur

37	37	Ku	Munjewar	Niharika	S	NM8
38	38		Nagarnaik	Hrishikesh	K	Meen
39	39		Nandurkar	Ritesh	M	Riteah
40	40		Neware	Bhavesh	K	Bhas
41	41	Ku	Ninave	Grishma	A	Bruame
42	42	Ku	Palsapure	Nidhi	L	Wishi
43	43	Ku	Patil	Metta	R	RMP.
44	44	Ku	Ramteke	Akshaya	G	RB
45	45	Ku	Ramteke	Apurva	P	Aperara
46	46	Ku	Ramteke	Papiha	K	Perron
47	47		Rao	Anurag	K	R/V
48	48	Ku	Sahu	Amisha	В	Amishes
49	49	Ku	Salodkar	Antara	V	Apsalodkar
50	50	Ku	Samarth	Surabhi	R	Sunto
51	51	Ku	Satpute	Samiksha	K	Com
52	52	Ku	Sharma	Jyoti	В	Sharma
53	53	Ku	Shende	Mrunali	V	moundi
54	54	Ku	Shingne	Vishvaja	С	Mermana
55	55	Ku	Singh	Janhvi	В	Singh

Dr. Togel Mesham.

Course Coordinator

S.S.E.S.A.'s Science College

Nagpur 18 | 1012019

#### SSES Amti's Science College Congress Nagar Nagpur Certificate course in Adulteration Department of Chemistry Batch -1 2019-2020

#### MCQ based Theory Examination

Time -1:30hr	Total Marks -ou						
Note: Each questions are compulsory and carries e	equal marks						
1. What is the important constituent of turmeric	d) Vegetable oils						
powder	7. Chili powder is usually adulterated with						
a) Glucose	a) Saw dust color						
b) Curcumin	b) Saccharin						
c) Casein	c) Khesari Dal						
d) None of above	d) Aluminum foil						
2. Purity of oils can be checked by	8. What are the reasons for the addition of						
a) Odour	adulterants?						
b) Rancidity	a) To extend the life of items						
c) Colour	b) To improve flavour colour and appearance						
d) all of above	c) To sell lesser quantity at the same price						
3. The most common adulterant used in coffee is	d) All the mentioned						
a) Chicory	9. Which reagent is used to check milk						
b) Tamarind seed powder	Adulteration						
c) Date seed powder	a) Iodine						
d) All of the above	b) Bromine						
4. Name the adulterant present in milk.	c) Chlorine						
a) Water	d) All of the mentioned						
b) Urea	10. Which material is used for adulteration of channa dal						
c) Starch							
d) All of the above	a) Masoor Dal						
5. The addition of these adulterants lowers the	b) Tur dal						
value of food.	c) Khesari dal						
a) Substance	d) All of the mentioned						
b) Nutritive	11. Why are adulterants added?						
c) Quality	a) To increase shelf-life of products						
d) All of the above	b) To improve flavor color and appearance						
6. Lead chromate is a common adulterant found in	c) To sell lesser quantity at the same price						
	d) All the mentioned						
a) Water	12. Methods for detection of common adulterants						
b) Soft drinks	are						
c) Turmeric	a) Visual tests						

- b) Chemical tests
- c) Physical tests
- d) All of the mentioned
- 13. Why is the use of adulterants in food products a concern?
- a) They improve the taste of food
- b) They can cause serious health issues
- c) They increase the nutritional value of food
- d) They make food more affordable
- 14. Which chemical is commonly used as an adulterant in honey?
- a) Glucose
- b) Fructose
- c) Corn syrup
- d) Sucrose
- 15. What material is used to give artificial yellow colour
- a) Crystal Voilet
- b) Metanil yellow
- c) Tumeric powder
- d) All of the mentioned
- 16. Which of the following is a coffee powder adulterant?
- a) Water and starch powder
- b) Artificial colouring agents Urea
- c) Dyes, chemical and Lead Chromate
- d) Chicory, tamarind seeds powder

Answer :d) Chicory, tamarind seeds powder

- 17. Which material is used to adulteration of chilli powder
- a) Urea
- b) Brick powder
- c) Rhodamine b
- d) All the mentioned
- 18. Which of the following can be used to detect adulteration in milk?
- a) Litmus paper
- b) Iodine solution
- c) Lactometer

- d) Thermometer
- 19. Which is the main Protein present in Milk
- a) Milk Protein
- b) Casein
- c) Glucose
- d) All the mentioned
- 20. Which carbohydrate are present in honey
- a) Glucose
- b) Fructose
- c) Both a and b
- d) only a
- 21. Which of the following is a common adulterant found in milk?
- a) Honey
- b) Salt
- c) Water
- d) Sugar
- 22. What is the full form of AGMARK
- a) Agriculture market
- b) Agricultural market
- c) Agricultural marketing
- d) Agriculture marketing
- 23. What is the primary reason for food adulteration?
- a) To improve food safety
- b) To enhance food flavor
- c) To increase profits by reducing production costs
- d) To comply with food standards
- 24. The full form of PFA is
- a) Prevention of Food Act
- b) Protection of Food Act
- c) Prevention of Food Adulteration Act
- d) None of the above is correct
- 25. The presence of chalk powder in wheat flour can be detected by:
- a) Adding iodine solution
- b) Adding dilute hydrochloric acid
- c) Adding water
- d) Heating the flour

Course Coordinator S.S.E.S.A.'s Science College Nagpur

- 26. Which of the following is NOT an example of a food adulterant?
- a) Chalk powder in flour
- b) Water in milk
- c) Natural flavoring in juices
- d) Synthetic dyes in spices
- 27. Asafoetida is adultered with except
- a) Starch
- b) Clay
- c) Chalk powder
- d) Maize cob
- 28. Chili powder is usually adulterated with
- a) Saw dust color
- b) Saccharin
- c) Khesari Dal
- d) Aluminum foil

Answer: a) Saw dust color

- 29. What are the reasons for the addition of adulterants?
- a) To extend the life of items
- b) To improve flavour colour and appearance
- c) To sell lesser quantity at the same price
- d) All the mentioned
- 30. Which is the important constituents of present in red Chilli powder
- a) Amino acids
- b) Vanillin
- c) Curcumin
- d) Capsaicin
- 31. Detection of artificial color in tea leaves can be done by:
- a) Adding water and observing for color leaching
- b) Adding iodine solution
- c) Adding hydrochloric acid
- d) Performing a flame test
- 32. Which stage does adulteration take place in?
- a) Producer
- b) Distributor
- c) Retailer
- d) All of the mentioned
- 33. Which of the following can be used to detect the presence of metanil yellow in turmeric powder?
- a) Iodine solution

- b) Sulphuric acid
- c) Hydrochloric acid
- d) Ethanol
- 34. Adulteration of honey with sugar syrup can

#### be identified by:

- a) Mixing honey with alcohol
- b) Performing a chromatography test
- c) Using a hydrometer
- d) Adding iodine solution
- 35. Which of the following is NOT a common method to detect adulteration in food?
- a) Chromatography
- b) Spectroscopy
- c) DNA sequencing
- d) Electrophoresis
- 36. What is the formula of glucose?
- a)  $C_6H_{12}O_6$
- b)  $(C_6H_{12}O_6)n$
- c)  $C_6H_{12}$
- d) None of above
- 37. Added sugar in milk is considered as
- a) Adulterant
- b) Preservative
- c) Additive
- d) None of the above
- 38. Which agency certify the adulteration of food
- a) Food corporation of India
- b) BID
- c) QIC
- d) AGMARK
- 39. Presence of soap in adulterated milk can be detected by:
- a)) pH test
- b) Tyndall effect
- c) Addition of iodine solution
- d) Litmus paper test
- 40. Which of the following chemicals is used to detect the presence of adulteration in ghee with vanaspati?
- a) Phenolphthalein
- b) Hydrochloric acid
- c) Sulfuric acid
- d) Potassium permanganate

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#### SSES Amti's Science College Congress Nagar Nagpur Certificate course in Adulteration Department of Chemistry 2019-2020

MCQ based Theory Examination-Answer Key( batch-1)

1.	b) C	urc	um	in
----	------	-----	----	----

2. d) all of above

3. b) Tamarind seed powder

4. d) All of the above

5. b) Nutritive

6. c) Turmeric

7. a) Saw dust color

8. d) All the mentioned

9. a) Iodine

10. c) Khesari dal

11. d) All the mentioned

12. d) All of the mentioned

13. b) They can cause serious health issues

14 c) Corn syrup

15. b) Metanil yellow

16. d) Chicory, tamarind seeds powder

17. c) Rhodamine b

18. c) Lactometer

19. b) Casein

20. c) Both a and b

21. c) Water

22. d) Agriculture marketing

23. c) To increase profits by reducing production costs

24. c) Prevention of Food Adulteration Act

25. b) Adding dilute hydrochloric acid

26. c) Natural flavoring in juices

27. a) Starch

28. a) Saw dust color

29. c) To sell lesser quantity at the same price

30. d) Capsaicin

31. a) Adding water and observing for color

leaching

32. d) All of the mentioned

33. b) Sulphuric acid

34. c) Using a hydrometer

35. c) DNA sequencing

36. a) C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>

37. b) Adulterant

38. d) AGMARK

39. d) Litmus paper test

40. b) Hydrochloric acid

Course Coordinator
S.S.E.S.A.'s Science College
Nagpur

## S.S.E.S. Amravati's Science College, Congress Nagar, Nagpur Certificate Course in Adulteration Department of Chemistry 2019-2020

#### **Notice**

**Date** 10<sup>th</sup> Oct 2019

All the enrolled students of Certificate course are hereby informed that, practical examination for Certificate course in Adulteration will be held on 19<sup>th</sup> oct 2019 at 4.00 to 5pm in the department of chemistry.

Reporting time: 3.50 pm

Dr Yogita Meshram

Course Co-ordinator

Course Coordinator 5.5.E.S.A.'s Science College Nagpur

#### SSES Amti's Science College Congress Nagar Nagpur

#### Certificate course in Adulteration

#### **Department of Chemistry**

2019-2020

#### Practical Examination (Batch -1)

Time -1hr

Total Marks -20

(10 Marks for expt+10 for Viva voce)

Note: Perform all experiments

- 1. To check the adulterant in milk
- 2. To check the adulterant in Tea
- 3. To check the adulterant in Black paper
- 4. To check the adulterant in chilli powder
- 5. To check the purity of honey

5. Viva Voce

Dr. Yogita K Meshram

Course Coordinator

Course Coordinator

S.S.E.S.A.'s Science College,

Nagpur

Dr. R. U. Khope Head, Department of chemistry

## Shri Shivaji Education Society Amravati's Science College, Nagpur

#### Department of Chemistry

Certificate Course in Adulteration 2019-2020

Practical Examination - Batch-1

Attendance Sheet

Date of Exam - 19th oct 2019

S.N	Roll No	191	Name of Stude	ents		Signature
1	1	Ku	Dhadwe	Sakshi	S	Spraduse
2	2	Ku	Dhekale	Kshitija	R	Value
3	3	Ku	Deshmukh	Nikita	Н	Wester
4	4	Ku	Gajbe	Shruti	R	3
5	5		Gaurkar	Nehal	V	DAY.
6	6		Giratkar	Harshad	S	Ou-
7	7	Ku	Hatwar	Yuganti	V	AHarmore.
8	8	Ku	Hatwar	Prachi	J	( New
9	9		Hedaoo	Parth	G	Rarthlan
10	10		Jamunkar	Lokesh	S	Lakesh
11	11	Ku	Junchare	Aachal	G	Spenad
12	12	Ku	Nagrare	Aaishwarya	S	Withmanker
13	13	Ku	Nirgulkar	Rudali	T	Pudale
14	14	Ku	Nirwan	Ritika	K	Risiber
15	15	Ku	Pakhmode	Shweta	U	Shueta.
16	16		Parihar	Himasnshu	Α	Historian
17	17		Parshuramkar	Prajwal	S	Paywal
18	18		Pawar	Gunjan	G	punjon
19	19		Punekar	Sahil	R	Sahil
20	20		Puri	Vaibhav	В	Paris
21	21	Ku	Rahangdale	Gangotri	L	gargotiei
22	22		Rangari	Sanket	S	Sarket.
23	23	Ku	Bhosle	Gouri	A	Geolei-
24	24		Buche	Mohan	P	-ABSENT
25	25	Ku	Chaurasiya	Sonu	V	Sonu
26	26	Ku	Chittalwar	Monali	V	Manala.
27	27		Dani	Kaiwalya	P	K. Dani
28	28	Ku	Dixit	Pooja	P	Poola"
29	29	Ku	Fuse	Swapnil	P	O Office
30	30	Ku	Gaur	Prakruti	P	rapidi
31	31		Hedaoo	Mukul	M	Mutalth
32	32		Ingole	Pranay	R	Ingole
33	33		Jichkar	Adinath	J	Aricher
34	34	Ku	Morghade	Ruchika	S	Quehibu
35	35	Ku	Motariya	Palak	N	Halpho
36	36	Ku	Motghare	Kalyani	N	Kalyanio

S.S.E.S.A.'s Science College Nagpur

37	37	Ku	Munjewar	Niharika	S	NMS
38	38		Nagarnaik	Hrishikesh	K	How
39	39		Nandurkar	Ritesh	M	Rightsh
40	40		Neware	Bhavesh	K	Phs
41	41	Ku	Ninave	Grishma	A	Comaroe
42	42	Ku	Palsapure	Nidhi	L	eviahi
43	43	Ku	Patil	Metta	R	RMPs.
44	44	Ku	Ramteke	Akshaya	G	pa
45	45	Ku	Ramteke	Apurva	P	Apun
46	46	Ku	Ramteke	Papiha	K	faipma
47	47		Rao	Anurag	K	T.
48	48	Ku	Sahu	Amisha	В	Linishas
49	49	Ku	Salodkar	Antara	V	AlSalodkar
50	50	Ku	Samarth	Surabhi	R	tur
51	51	Ku	Satpute	Samiksha	K	Brownite
52	52	Ku	Sharma	Jyoti	В	JSharma
53	53	Ku	Shende	Mrunali	V	Mrunali
54	54	Ku	Shingne	Vishvaja	C	Wilmaja
55	55	Ku	Singh	Janhvi	В	Singly

Trains Dr. Togila Medham
Course Codrainator
S.S.E.S.A.'s Science College
Nagpur

19/10/2019

## Shri Shivaji Education Society Amravati's Science College Congress Nagar

#### Nagpur

## Department of Chemistry Certificate Course in Adulteration (Aug 19 to Oct 19) Result sheet (Batch -1)

S.N	DN		N	4-1-4		Theory	Practical	Total	Grade
5.IV	R.N		Name of S	tudents		80	20	100	
1	1	Ku	Dhadwe	Sakshi	S	60	16	76	Α
2	2	Ku	Dhekale	Kshitija	R	62	18	80	А
3	3	Ku	Deshmukh	Nikita	Н	68	16	84	A+
4	4	Ku	Gajbe	Shruti	R	58	14	72	Α
5	5		Gaurkar	Nehal	V	64	16	80	Α
6	6		Giratkar	Harshad	S	60	15	75	Α
7	7	Ku	Hatwar	Yuganti	V	68	18	86	A+
8	8	Ku	Hatwar	Prachi	J	66	17	83	A+
9	9		Hedaoo	Parth	G	70	18	88	A+
10	10		Jamunkar	Lokesh	S	54	16	70	B+
11	11	Ku	Junchare	Aachal	G	58	18	76	Α
12	12	Ku	Nagrare	Aaishwarya	S	44	16	60	В
13	13	Ku	Nirgulkar	Rudali	Т	48	17	65	B+
14	14	Ku	Nirwan	Ritika	К	60	18	78	Α
15	15	Ku	Pakhmode	Shweta	U	56	18	74	Α
16	16		Parihar	Himasnshu	Α	64	19	83	A+
17	17		Parshuramkar	Prajwal	S	72	20	92	0
18	18		Pawar	Gunjan	G	74	19	93	0
19	19		Punekar	Sahil	R	62	16	78	A
20	20		Puri	Vaibhav	В	64	17	81	A+
21	21	Ku	Rahangdale	Gangotri	L	62	15	77	A
22	22		Rangari	Sanket	S	66	17	83	A+
23	23	Ku	Bhosle	Gouri	A	60	14	74	A
24	24		Buche	Mohan	Р	AA	AA	AA	AA
25	25	Ku	Chaurasiya	Sonu	V	64	18	82	A+

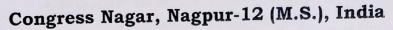
26	26	Ku	Chittalwar	Monali	V	74	20	94	0
27	27		Dani	Kaiwalya	Р	76	20	96	0
28	28	Ku	Dixit	Pooja	Р	70	20	90	A+
29	29	Ku	Fuse	Swapnil	Р	68	18	86	A+
30	30	Ku	Gaur	Prakruti	Р	60	18	78	А
31	31		Hedaoo	Mukul	М	62	15	77	A
32	32		Ingole	Pranay	R	56	16	72	А
33	33		Jichkar	Adinath	J	72	20	92	0
34	34	Ku	Morghade	Ruchika	S	62	17	79	Α
35	35	Ku	Motariya	Palak	N	64	18	82	A+
36	36	Ku	Motghare	Kalyani	N	60	17	77	А
37	37	Ku	Munjewar	Niharika	S	58	16	74	A
38	38		Nagarnaik	Hrishikesh	К	68	19	87	A+
39	39		Nandurkar	Ritesh	М	52	16	68	B+
40	40		Neware	Bhavesh	К	62	18	80	A
41	41	Ku	Ninave	Grishma	A	74	20	94	0
42	42	Ku	Palsapure	Nidhi	L	70	20	90	A+
43	43	Ku	Patil	Metta	R	68	19	87	A+
44	44	Ku	Ramteke	Akshaya	G	62	17	79	A
45	45	Ku	Ramteke	Apurva	Р	56	17	73	A
46	46	Ku	Ramteke	Papiha	K	54	16	70	B+
47	47		Rao	Anurag	К	60	17	77	A
48	48	Ku	Sahu	Amisha	В	46	15	61	B+
49	49	Ku	Salodkar	Antara	V	52	16	68	
50	50	Ku	Samarth	Surabhi	R	42	15		B+
51	51	Ku	Satpute	Samiksha	K	48		57	В
52	52	Ku	Sharma	Jyoti			16	64	B+
53		Ku	Shende		В	50	14	64	B+
54	53	Ku		Mrunali	٧	44	15	59	В
55	54		Shingne	Vishvaja	С	62	16	78	А
33	55	Ku	Singh	Janhvi	В	66	18	84	A+

Course Coordinator S.S.E.S.A.'s Science College SCATHIEU WILLI CA



## Shri Shivaji Education Society, Amravati's

## SCIENCE COLLEGE





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Add-on Course  Course Exam Name: Certificate Course in ADULTERATION								
Roll No.: 0 0 7	Session: 2019-2	INSTRUCTIONS FOR FILLING THE SHEET  1. This sheet should not be folded or crushed.  2. Use only blue/ black ball point pen.						
Date of exam- 18110119	Max. Marks: 80	<ul><li>3. Use of pencil is strictly prohibited</li><li>4. Cutting and erasing on this sheet is not allowed.</li></ul>						
Invigilator Signature	Obtained Marks:	<ul> <li>5. Do not use any stray marks on the sheet.</li> <li>6. Do not use marker or white fluid to hide the mark.</li> <li>7. Tick √ in the box of correct answer</li> </ul>						

	Q.No		Options	Q.No	Options
-	1	a.   b.	c. 🔲 d. 🗌	21	a b c d
1	2	a.  b.	c. 🔲 d. 🔃	22	a b c d.\_
	3	a.  b. 🔯	c.  d.	23	a b c d
	4	a.  b.	c.	24	a b c d
	5	a.  b	c.	25 /	a b c d
_	6	a.  b.	c. 🔽 d. 🗌	26	a b c d
/	7	ą. / b.	c. 🔲 d. 🗌	27	a b c d
4	8	a. b	c. 🔲 d. 🗌	28	a, b c d
	9	a. b.	c. 🔲 d. 🗌	29	a b c d
	10	a. [ b. [	c. 🔽 d. 🗌	30	a b c d
	11	a.  b	c. 🔲 d: 🔽	31	a.  b.  c.  d.
-	12	a. b. 🗌	c. 🔲 d. 🗌	32	a b c d
_	/13	a.   b.	c. 🔲 d. 🗌	33	a b c d
	14	a. [ b. [	c.√ d. □	34	a b c d
0	15	a.   b.	c. 🔲 d. 🗌	35	a, b. c. d.
	16	a. [ b. [	c. 🔲 d. 🔽	36	a. b. c. d.
	17	a. [] b. []	d	37	a b c d
1	18	a. [ b. [	c. d.	38	a b c d
_	19	a.   b.	c d	39	a b c d
_	20	a b	c. 🔽 d. 🗌	40	a b c d

# SSES Amti's Science College Congress Nagar Nagpur Certificate course in Adulteration Department of Chemistry 2019-2020 Batch -1

## **Feedback Form**

SN	Questions	Ratings				
1	Was the duration of course appropriate	Yes	No			
2	Was this course benefitted for students carrier	Yes	No			
3	.How do you rate the overall certificate course	Excellent	Good	Satisfactory		
4	.How do you rate the prescribed syllabus	Excellent	Good	Satisfactory		
5	Is this a need of hour	Yes	No	Can't say		

Any Suggestion if any:

Course Coordinator
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#### SSES Amti's Science College Congress Nagar Nagpur Certificate course in Adulteration

#### Department of Chemistry 2019-2020 Batch -1

#### Feedback Analysis

- 1. Numbered of students enrolled for the certificate course-55
- 2. Number of students successfully completed the certificate course-53
- 3. Number of students successfully submitted feedback -49

SN	Question	Students Number wise Responses				
1	Rating	Yes	No			
	1. Was the duration of course appropriate	45	4			
2	Rating	Yes	No			
	2. Was this course benefitted for students carrier	48	1			
3	Rating	Excellent	Good	Satisfactory		
	3.How do you rate the overall certificate course	46	2	01		
4	Rating	Excellent	Good	Satisfactory		
	4.How do you rate the prescribed syllabus	49	-	-		
5.	Rating	Yes	No	Can't say		
	5. Is this a need of hour	46	00	3		

Internal Quality Assurance Cell

(IOAC)

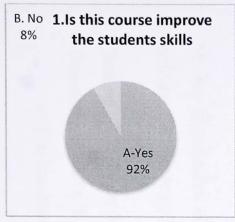
S. S. E. S. A. Science College Congress Nagar, Nagpur.

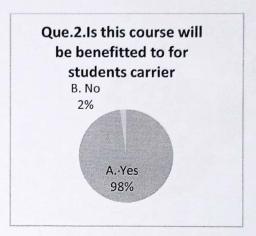
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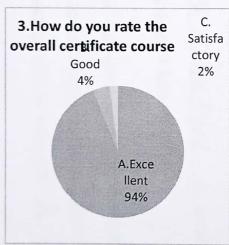
Principal S. S. E. S. Amravati's Science College, Nagpur.

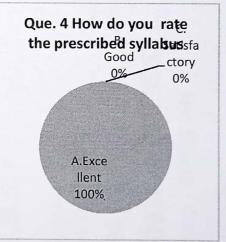
#### SSES Amti's Science College Congress Nagar Nagpur Certificate course in Adulteration Department of Chemistry 2019-2020 Batch -1

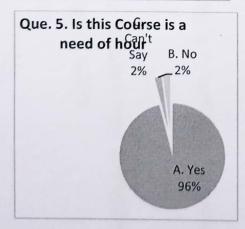
#### Feedback Analysis in Pie Chart Presentation















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CERTIFICATE

Mr./Ku. Sakshi S. Dhadwe is awarded with certificate on successful completion of the course entitled, Certificate course in "Adulteration".

Session 2023-24 under Add-on course conducted for 30 hours from 02/08/2019 to 12/10/2019 by Department of Chemistry, SSESA's, Science College, congress Nagar, Nagpur 440012.

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

Dr. Yogita Meshram

Coordinator, Department of

Prof. M. P. Dhore
Principal, Science College