

राष्ट्रीय आविष्कार सप्ताह 2023-24 RASHTRIYA AVISHKAR SAPTAH 2023-24







Rashtriya Avishkar Saptah 2023-24



Guidelines



Department of Education in Science and Mathematics National Council of Educational Research and Training Sri Aurobindo Marg, New Delhi – 110016, India



DR. APJ ABDUL KALAM

Avul Pakir Jainulabdeen Abdul Kalam, born on 15th October, 1931 in a small village in Rameswaram in Tamil Nadu, rose to become the President of India. Dr. Kalam was elected as 11th President of India in July, 2002. One of the iconic Presidents of India, the late Dr. A P J Abdul Kalam, who was not only the country's Missile Man, but the most popular "People's President". Coming from a very humble background, he used to distribute newspapers as a child to supplement family income, relentlessly pursued education in the most difficult circumstances and became one of the leading space and missile scientists of India. A newspaper boy becoming President of India is the greatness of this country. As President, he shared his vision for India, addressing youth and old with the same passion which formed his entire life. Dr. Kalam was passionate for transforming society through technology especially in inspiring the youth of India to harness Science and Technology for human welfare. Dr. Kalam, inspite of his achievements, always wanted to be remembered as a teacher. And it was as a teacher addressing a gathering at IIM Shillong that he breathed his last on the evening of 27th July, 2015.

Source: http://pibmumbai.gov.in/English/PDF/E2015_FR44.PDF

GUIDELINES DEVELOPMENT COMMITTEE (NCERT)

Members

Sunita Farkya, Professor & Head A.K. Wazalwar, Professor Anjni Koul, Professor Rachna Garg, Professor Ruchi Verma, Professor C.V. Shimray, Associate Professor Pushp Lata verma, Associate Professor Ashish Kumar Srivastava, Assistant Professor R. R. Koirang, Assistant Professor, DCS & D Rejaul Karim Barbhuiya, Assistant Professor, CIET **Member-Coordinators** Dinesh Kumar, Professor, DESM, Head PMD & Dean (Research) R.K. Parashar, Professor, DESM Academic Support Shefali Shukla, Assistant Professor, Department of Chemistry, Sri Venkateswara College, University of Delhi Dheeraj Kumar Sharma, PGT (Chemistry), Kendriya Vidyalaya, Pitampura Dinesh Kumar, Assistant Director (Technical), Food Safety & Standards Authority of India (FSSAI), New Delhi Divya Verma, Junior Project Fellow, DESM Amar Kumar, Junior Project Fellow, DESM Hindi Translator Kumkum Chaturvedi (Content developer and translator), Former Senior Consultant, IGNOU **Technical Support** Kishore Singhal, Typist, DESM Tarun Kumar Nogia, Graphic Designer, DESM

Shivam Kumar Gaur, System Analyst

ACKNOWLEDGEMENTS

The Guidelines on Rashtriya Avishkar Saptah 2023-24 for school students is to bring focus on innovation and use of technology and to make learning of science experiments a joyful activity. As per the guidelines, all students at Middle (Classes VI–VIII) and Secondary (Classes IX-XII) stages will carry out the experiments on the Theme **"Identification of Adulterants in Food"**. The guidelines will be followed by PM Shri schools besides the other categories of schools of all States and Union territories.

Development of these guidelines would not have been possible without the appreciated inputs of various individuals associated with this programme. Foremost, the Council would like to thank *Prof. Dinesh Prasad Saklani, Director, NCERT* and *Prof. Sridhar Srivastava, Joint Director, NCERT*, for their directions and support at every step of the guideline's development.

NCERT expresses gratefulness to the Head of Department, *Prof. Sunita Farkya* for her efforts and instructions to make the improved guidelines. The council would like to thank member coordinators *Prof. Dinesh Kumar, DESM* and *Prof. R.K. Parashar, DESM* for their hard work and timely guidance to complete the guidelines successfully. We would like to thanks all the faculty members of DESM associated with this programme for their contribution in development of guidelines.

The council also appreciates the work done by review committee and giving their ideas for experimentation in the workshops. We would like to thank *Mr. Dheeraj Kumar Sharma, PGT Chemistry, Kendriya Vidyalaya, Pitampura, Dr. Shefali Shukla, Assistant Professor, Sri Venkateswara College, Retd. Prof. Bijendra Singh, Hansraj College, Dr. Dinesh Kumar, Assistant Director (Technical), FSSAI, Retd. Prof. R.S. Sindhu, NCERT, and Prof. Sunita Malhotra, IGNOU for their valuable inputs and time.*

NCERT thanks *Dr. Divya Verma, JPF* and *Mr. Amar Kumar, JPF* who are associated with the programme and given their contribution at each stage of development of guidelines.

The council also thanks to our Technical Staff *Mr. Tarun Kumar Nogia, Graphic Designer, Mr. Kishore Singhal, Typist* and *Mr. Shivam Gaur, System Analyst for helping in the final layout and formatting of the Guidelines.*

NCERT thanks all the people who has supported directly and indirectly in each and every phase of development of guidelines for Rashtriya Avishkar Saptah 2023-24.



Guidelines for Rashtriya Avishkar Saptah 2023-24

Introduction

Science, Technology and Innovation have emerged as the major drivers of national development globally. Ministry of Education (MoE), Government of India launched Rashtriya Avishkar Abhiyan (RAA) with the following objectives:

- To make learning of Science and Mathematics a joyful and meaningful activity
- To nurture a spirit of inquiry and creativity; and
- To bring focus on innovation and use of technology

National Education Policy (NEP) 2020 emphases on 'Experiential learning' that is 'learning by doing' to build conceptual understanding and skills through guided practice, reflection, observation, evaluation to accelerate learning, to improve retention resulting in amalgamation of cognitive, psycho-motor and affective domains of learning through an integrated and multidisciplinary approach of learning to ensure more meaningful, holistic and cohesive learning experience for the students.

For this, at Middle and Secondary stages of education, systematic experimentation and working on locally significant projects involving science and technology are important parts of curriculum. In order to encourage students for exploration and innovation, it is extremely important to engage them in experimentation-based learning.

Considering this, Programme Approval Board (PAB), MoE, Government of India has approved the proposal of Department of Education in Science and Mathematics (DESM), NCERT, New Delhi that any week during November 2023 to January 2024 may be declared as 'Rashtriya Avishkar Saptah 2023-24'. During this week, all the students at Middle and Secondary stages, at least from 3-5 schools of each block across the country, will carry out a few experiments as per the Guidelines developed by NCERT.

The objective of this programme is to generate enthusiasm and to encourage experimentation or exploration among students at Middle and Secondary stages in Science and Mathematics. Engaging students in understanding and creating awareness of some common issues and local problems may be one of the ways to achieve this or could be a means to accomplish this goal.

Scheduled Dates for the conduct of Rashtriya Avishkar Saptah 2023-24

Rashtriya Avishkar Saptah 2023-24 is scheduled to be conducted in any week during November 2023 to January 2024 in at least 3 to 5 schools from each block of the country.

Note: The schools which remain closed due to winter vacation from December to January can conduct the activities in February 2024.

Selection of School

All States/ UTs/ KVS/ NVS will essentially involve all the PM Shri schools besides the other categories of schools.

The State/UT government has to select at least 3-5 schools preferably from each block which has classes for Middle and Secondary levels, for conducting the activities of 'Rashtriya Avishkar Saptah 2023-24'.

Note: However all the schools of the above-mentioned category may also be considered, if feasible. Composite schools may be selected. Some parameters have to be considered while selecting the school. It is desirable to select a co-educational school. If not possible, then care should be taken that within a State/UT, almost equal numbers of girl's and boy's schools must be selected. While choosing schools, an equal representation of rural and urban schools may also be ensured.

In some States/UTs, Middle and Secondary schools operate independently. In such cases, one Middle and one Secondary school may be selected from each block. If possible, twinning of these two schools may be done for Rashtriya Avishkar Saptah 2023-24. For special cases, such as in some UTs, where there are no blocks, 3-5 schools may be selected from each cluster/ zone.

Funding

It is suggested that the State/UT may allocate a budget of Rs. 3000-4000/- per school to support the implementation of the activities/ experiments related to the "Identification of Adulterants in Food" that are to be conducted during Rashtriya Avishkar Saptah 2023-24. In States/UTs, where Middle, and Secondary School each has been selected from a block, a budget of Rs. 3000-4000/- may be allocated to each school. For this purpose, the States/UTs may utilize the

funds allocated by Ministry of Education (MoE), through Programme Approval Board (PAB) of Rashtriya Avishkar Abhiyan (RAA) under Samagra Shiksha. For details please refer to page no. 18 of RAA Guidelines by Ministry of Education (MoE) initially known as Ministry of Human Resource Development (MHRD) [Letter attached or link attached].

File No. Government of India Ministry of Human Resource Development (Department of School Education and Literacy) Shastri Bhawan, New Delhi Date:28 th May, 2015 <u>ORDER</u>		Funding Listed act Shiksha A collaborati Education Milestone The miless on Science 16 to 2019	ivities/components of Rash bihiyan (SSA) and Rashtriy ive initiatives with Ministry institutions in coordination 's for RAA initiatives: tones for 03 major initiative /Maths and Science/Mathen -20 as follows:	ntriya Avishkar / ra Madhyamik Si of Science and with their scheme rs under RAA, na natics clubs are sp	Abhiyan would hikshaAbhiyan Technology at ss and norms, mely School M panned out for f	be funded un (RMSA) and in ad Department of lentoring, Teach ïve years from y	ler Sarva cases of f Higher er Circles ear 2015-
Subject: Guidelines on the Rashtriya Avishkar Abhiyan regarding.		Year	Coverage of Category of schools to be covered by Mentoring Institutions	Mentoring Institutions	Formation of SC/Maths clubs (in all schools taken up)	Participation in Children's Science Congress	Participation in Maths & Science Olympiads at District/State/N ational level
making learning of Science Mathematics a joyful and meaningful activity, tobring focus on innovation and use of technology, the Ministry of Human Resource Development has set up the	I	2015-16	2 Pilot Year: 100 Govt.	3 IITs, NITs, Central			-
Rashtriya Avishkar Abhiyan(RAA)- a convergent framework that aims at nurturing a spirit of inquiry and creativity, love for Science and Mathematics and effective use of technology			5010013	Institutions, IISERs			
amongst children and encourage those who show an inclination and talent for these subjects to be encouraged and supported to heights of academic excellence and research. Rashtriya Avishkar Abhiyan will target students in the age group of 6 - 18 years and intum the execution of RAA will span across MHRD's schematic interventions of Sarva Shiksha Abhiyan, Rashtriya Madhyamik Shiksha Abhiyan in the Department of School Education & Literacy and	п	2016-17	10% of all KV and JNV Schools. 5% Govt. primary/upper primary and secondary/sr. secondary	All Higher Educational Institutions (Central/ State Universities / Colleges under UGC / AICTE	50% of schools selected in column 2	50% of schools selected in column 2	Children from 25% of schools selected in column 2
programmes and schemes of Department of Higher Education to encourage Science, Mathematics & Technology.	ш	2017-18	25% of all Govt. schools including secondary/sr. secondary schools, elementary/primary schools	Do	33	>>	22
Background to KAA Science, Technology and Innovation have emerged as the major drivers of national development	IV	2018-19	50% of secondary/sr. secondary schools,	Do	"	**	"
globally.India, with its near universalisation of access in school education and expanding Higher Education and Scientific institutions both under the government and private sectors, wants to give a direction to drive future innovations by encouraging children in exploration, discovery and innovation to support aclimate of innovation by teachers and students at school level.	V	2019-20	elementary/primary schools 100% secondary & sr. secondary schools, 75% elementary/primary schools	Higher Secondary Schools for Primary Schools	33	55	"
The Kothari Commission (1964) noted that the destiny of this country is shaped in the classrooms and laboratories of schools, colleges and universities. India's Curriculum Framework recognisesconnecting knowledge to life outside the school and notes that learning takes place both within school and outside school andseeks to design learning tasks beyond textbooks and schools.		This issue:	s with the approval of the Ho	on'ble HRM.		(Anamil	ta Singh)
1				18			

Note: Schools designated under PM Shri category may use fund provided under the scheme.

Academic Support

The faculty members of SCERTs and DIETs may be involved for providing academic support to the selected schools. If possible, the science faculty member(s) of Higher Education Institutes (HEIs) located close to the schools may also be involved. Block level administrator may coordinate through online mode during Rashtriya Avishkar Saptah 2023-24 to facilitate the conduct of experiments/ activities.

Stage appropriate involvement of the students in performing experiments

All students of classes VI to XII of the selected school will carry out the experiments/ activities within the stipulated time periods assigned to them in their time-table for performing practicals in science/chemistry classes or assignments given at their home as per requirements. Students who are performing activities/experiments at home are expected to perform these activities/ experiments individually at their home only under the supervision of guardians/parents/elder siblings.

Procedure for performing experiments

Understanding the procedure for performing the experiments/activities and importance of the chosen experiments/ activities is one of the major factors for the efficient conduct of the event. For this, the guidelines containing procedure may be distributed to teachers, school heads, education administrators, etc., in advance. Students may be provided the procedure for conducting the experiments/activities on identification of food adulteration.

Role of teachers while performing experiments

Teacher may provide instructions/hand holding to the students prior to performing the experiments on the selected theme in a scientific manner. Teacher may provide the procedure to the students for performing activities/experiments. She/he may make the students aware about the scientific method involved for the study, objectives of the study, preparations before the activities/ experiments, method of collecting the data scientifically and precautions to be taken while performing the activities/ experiments. It is expected that, all the material required for the activities/ experiments should be made available and easily accessible prior to the activities/ experiments to the students.

To facilitate the execution of the suggested activities by Students with special needs following points may be considered

- > They may be allowed and encouraged to seek assistance from parents, caregivers or siblings.
- They may be given some time prior to commencement of the activity to familiarize themselves with the items used in the activity.
- They may be given more time for doing activities/ experiments considering the learning difficulty of the student(s).
- > They should be acquainted with the units used like gram, millilitre etc.

Working Environment

Experiments should be performed at a suitable place as a normal routine of the laboratory practice. To create a positive, calm, and pleasant work atmosphere, teachers and parents may encourage students to appreciate that they may come across diverse data during their experiences. This approach aims to alleviate any fear, anxiety or tension among students and promotes inculcation of values.

Awareness about the event

To create awareness about the event among the students, the school should put up a poster within the school premises and may click a clear photo of the poster. The poster may be hand painted on paper/ cloth having details as shown in the Figure 1. Schools may think of a catchy title in their local language. In place of the title **"Identification of Adulterants in Food"; "Stop Food Adulteration"** may be given. School Development Management Committee (SMDC) members and local community people may not only be made aware about the event but should be involved them in such activities.



Figure 1: Sample of poster on Rashtriya Avishkar Saptah 2023-24

IDENTIFICATION OF ADULTERANTS IN FOOD

Food is essential for sustenance of life. We all eat food and gain energy for different metabolic activities. Every living organism requires nourishment to support its growth, perform work, facilitate repairs, and sustain essential life processes. Food plays an important role in prevention of diseases and fighting against infections. Pure, fresh and healthy diet is essential for good health and proper functioning of the body. The secret of a good life is to have the right food at the right time.

Adulteration: Food adulteration is an act of intentional/ unintentional addition of inferior substances to the food items leading to contamination of food. These inferior substances are called adulterants. The deliberate inclusion of adulterants in food products is driven by economic motives, resulting in a reduction of their nutritional quality.

Food is considered adulterated if it meets any of the following criteria:

- An addition of a substance that diminishes or harms its quality.
- Replacement with cheaper or inferior ingredients, whether in whole or in part.
- Removal of any valuable or essential components, whether in whole or in part.
- Addition of an imitation of the genuine product.
- Alteration through dyes or colourants to enhance its appearance.
- Deterioration in quality below established standards, regardless of the cause.

Why Food Adulteration?

Food adulteration is done often by dishonest people for quick financial gain. Adulterated food may be hazardous to life and pose significant risk to public health and safety. Adulteration could deprive nutrients essential for proper growth and development. However, food shortage and escalating costs, consumer demands, lack of awareness, negligence, and insufficient enforcement of food laws and food safety measures lead to food adulteration. Some of the main reasons that are responsible for adulterating food products are:

- to increase the quantity of food product.
- to meet the food demand for a rapidly growing population.
- to make maximum profit from food items by fewer investments.

- non-availability of skilled personnel for correct food processing, transportation, and storage.
- lack of knowledge of proper food handling.

Individuals may have limited understanding regarding how to consume food in a way that is safe, nutritious, and healthy. Incorrect food handling practices like wrapping food items in newspaper can transfer harmful dyes into food, keeping hot food in low grade plastics, long storage of perishable food items at room temperature etc., can lead to foodborne illnesses.

Classification of Adulterants

Food adulterants can be categorized on the basis of

- A) Intention
- B) Safety and Quality

A) Intention: Food adulterants can be categorized into two types based on the intent:

 Intentional Adulterants – It involves deliberate and purposeful contamination or alteration of food products with the intent to gain economic benefits. It is often done to cut production costs or increase profits. This is a dangerous and unethical practice as significant amounts of nutrients are deducted from food items, and extraneous substances are added for profit-driven purposes. This type of adulterants not only compromises the nutritional value of the food but also raises serious health concerns for consumers.

For Example: Sand, Marble, Dust, Mineral oil, Harmful colours, Chalk powder, Water, and Sawdust

2. Unintentional or Incidental Adulterants – Incidental adulteration occurs when food becomes contaminated or altered unintentionally due to factors such as environmental pollutants, processing errors, improper facilities like transportation and storage, negligence or ignorance. These incidental adulterants include chemical adulterants (e.g., pesticides), biological adulterants (e.g., rodent's droppings, larvae), metallic contaminants (e.g., lead from water, chemical industries/factories effluents) and other unintentional non-food ingredient contaminants (e.g., stones, dirt, etc.)

B) Safety and Quality: Food adulterants can also be categorized into two main types: safe and unsafe, based on their effects on the product's safety and quality:

- Safe Adulterants Safe adulterants are substances added to products solely to boost profitability without causing immediate harm to consumers' health. These are substandard adulterants that do not meet the quality standards and compromise the quality and integrity of the product. These are generally added to increase the quantity and at the same time result in reduced quality of product. For Example: Addition of papaya seeds in black pepper, sugar syrup in honey, water to milk, etc.
- Unsafe Adulterants Unsafe adulterants are substances added to a product that can
 pose significant risks to human health or safety. These adulterants can include toxic
 chemicals, contaminants, or harmful substances. For Example: Adding dyes (Lead
 Chromate, Metanil Yellow, etc.) to spices, coating green vegetables with artificial
 colours like Malachite Green.

Impact of Adulteration on Health

Food adulteration, whether unintentional or motivated by economic fraud or malicious food tampering, can have serious effects on health and safety. In India, normally the contamination/adulteration in food is done either for financial gain or due to carelessness and lack in proper hygienic condition of processing, storing, transportation and marketing. Also, food adulteration peaks during the festival season due to high demand and less supply. To get maximum profit at that time, shopkeepers start mixing adulterants to food on large scale. Milk, Ghee, Paneer, Khoya, Chenna, Sweets are commonly being adulterated during festival time.

Certain food adulterants do not result in illness; instead, they solely impact the nutritional aspect, leading to health deterioration and diminishing the overall quality of the food. While there are numerous adulterants readily available in the market, some of them carry both short-term and long-term health repercussions. Consuming the food adulterated with such substances could be hazardous and may lead to multiple health issues including allergic reactions, diarrhoea, kidney disorders, failure of an individual's organ systems, and even cancer.

The Prevention of Food Adulteration Act, 1954 (Amended in 1964, 1976, 1986)

The Act provides the protection from adulteration / contamination of food because adulterated food may lead to the health risk of consumers. The Act deals with the frauds also that can be perpetrated by the dealers by supplying cheaper or adulterated foods. The Act regulates the use

of chemicals, pesticides, flavouring agents and other additives in food preparation. Through this Act there is a control over dumping of sub-standards foods.

The common food items in which adulterants are commonly found includes Milk, Spices (Turmeric powder or Whole turmeric, Chilli powder, Black pepper, Coriander powder, Salt, Cumin seeds), Pulses, Honey, Tea Leaves, Wheat flour (Atta), All purpose flour (Maida), Gram flour (Besan), Green vegetables and Fruits.

S. No.	Food Item	Adulterant
		Water
		Starch
1.	Milk	Urea
		Alkalizers
		Soap
2.	Fat (Ghee)	Starch
3.	Khoya	Starch
4	Indian cottage cheese	Starch
4.	(Paneer)	Staten
5.	Coriander powder	Dye/ Coloured sawdust
6.	Turmeric powder	Dye/ Artificial colour
7	7	Dye/ Red Artificial colour
/.	Chini powdei	Brick powder
8.	Black pepper (whole)	Papaya seeds
0	Cumin seeds	Coloured grass seeds
).	Cumm seeds	Foreign material
10	Pulses (Arhar/ Chana/	Artificial dyes
10.	Moong dal)	Khesari dal
11.	Honey	Sugar syrup
12.	Tea Leaves	Dyed exhausted tea leaves
13	Wheat flour (Atta)/ All	Borate
13.	purpose flour (Maida)	Dorate
14.	Gram flour (Besan)	Metanil yellow dye
15.	Green vegetables/ Fruits	Dye (Malachite green or Rhodamine B)

These food products and their adulterants are listed below in the Table:

List of Activities:

Activity I: To test the adulteration in milk and its products

a.) To Test the Purity of Milk

• Materials required: Milk sample, Dropper/pipette, glass tile or any other plain surface

(i) By flow test on slant surface (glass tile)

S. No.	Procedure	Observation	Inference
1.	Put a drop of milk	a) The drop of milk moves	The sample of milk
	on a slant plain	slowly, leaving a white trail	is pure
	surface.	behind it.	
		b) The drop of milk flows rapidly,	Water is added to the
		without leaving a mark.	milk sample.



Note: Put drop of milk carefully on slant surface so that the white trail can be observed clearly.

(ii) To test the purity of milk using standard lactometer

• Materials Required:

Measuring cylinder (50 mL/100 mL), Pure milk, Distilled water, Test tubes, Beaker, Standard lactometer

• Procedure:

- 1. Pour the homogenized fresh milk sample into a clean and dry measuring cylinder and fill it up to the brim at room temperature.
- 2. Clean the lactometer with water and wipe dry.
- 3. Lower the lactometer and release it gently into the milk holding it by the stem.

- 4. Record the reading on the scale corresponding to the top of the meniscus of the milk.
- 5. Observe the lactometer scale reading.



• Observations:

Lactometer reading	Specific gravity	Type of Milk	Inference
Less than 20		-	Water has been added to milk
28-30	1.028 to 1.030	Cow milk	
30-32	1.030 to 1.032	Buffalo milk	
35-37	1.035 to 1.037	Skim milk	

Note: Lactometer is standardized for measurement at room temperature. Hence, milk should be at room temperature, while taking the lactometer reading.

(iii) By density method using self-made lactometer

• Materials required:

Plastic drinking straw, Sand, Sealing wax, Measuring cylinder (50 mL/100 mL), Pure milk sample, Distilled water, Test tubes, Beaker

• Principle:

Lactometer works upon the Archimedes' Principle. It states that the upward buoyant force that is exerted on a body immersed in a fluid, whether fully or partially, is equal to the weight of the fluid that the body displaces.

• Fabrication and calibration of self-made lactometer

> Fabrication:

1. Take a straw and seal its one end with sealing wax.

- 2. Put some sand (around one cm height above sealing wax) at the bottom to add weight to the straw so that it does not float at the liquid surface and partially submerge in the liquid.
- 3. Now close the other end with the sealing wax.
- 4. The lactometer is now ready for calibration.

> Calibration:

- 1. Dip the lactometer in water. It will sink up to a certain level, mark this level as 'W'.
- 2. Now put the lactometer in pure milk and mark the sinked in level as 'M'.
- 3. Mix 50 % water in pure milk and put lactometer in the mixture. It would sink in between 'W' and 'M'. Mark this level as 'H'.



S.N	Procedure	Observation	Inference
0			
1.	Put the lactometer in the test sample of milk.	 a) The lactometer sinks in between 'W' and 'H' b) The lactometer sinks 	a) The milk sample contains more than 50% waterb) The milk sample contains less than 50% water
		in between 'H' and 'M'	

Note:

- 1. The diameter of test tube/measuring cylinder should be more than lactometer.
- 2. The test tube/ measuring cylinder should be filled to the top every time.
- 3. The apparatus of same capacity should be used for making all observations.
- 4. The reading on the lactometer should be noted when it becomes stationary.
- Results:

Milk Samples (in mL)	Level Marked at
Sample A	
Sample B	
Sample C	

b) To Test the Presence of Starch in Milk, Paneer, Khoya and Ghee

• Materials required:

1% Iodine solution, Test tubes, Test tube stand, Sample of Milk, Paneer, Khoya and Ghee

S. No.	Procedure	Observation	Inference
1.	Add few drops of 1%	Formation of blue	Starch is present in these
	Tincture of Iodine/ Iodine	colour	samples
	solution in milk, Paneer,		_
	Khoya and Ghee samples		
	taken in different test tubes.		

Note: Preparation of 1% Iodine Solution- Dissolve 1.0 g of Iodine crystals in Potassium iodide solution (prepared by dissolving 2 g of Potassium iodide in minimum amount of water).



• Results:

Sample (Milk/Paneer/Khoya/Ghee)	Starch Present/Absent
Sample A	
Sample B	
Sample C	

c) To Test the Presence of Urea in Milk

• Materials required: Measuring Cylinder (50 or 100 mL), Milk sample, Dropper/pipette, Test tubes, Test tube stand, Soybean/ Arhar dal powder, Red litmus paper

S. No	Procedure	Observation	Inference
1.	Fill half test tube with milk and add	The colour of litmus	Urea is present in the
	one teaspoon soybean/ Arhar	paper changes from	milk sample
	powder. Shake the contents of test	red to blue	
	tube.		
2.	Dip a red litmus paper in it after 5-		
	7 minutes.		
3.	Remove the paper after a minute		
	and observe.		



• Results:

Milk samples (in mL)	Red litmus paper colour change
Sample A	
Sample B	
Sample C	

d) To Test the Presence of Alkalizers (NaOH/ Na₂CO₃/ NaHCO₃) and Soap in Milk

Materials Required: Measuring Cylinder (50 or 100 mL), Milk sample, Dropper/pipette, Test tubes, Test tube stand, and Phenolphthalein indicator

S.No	Procedure	Observations	Inference
1.	Take one test tube of milk and add	The colour changes	Milk is adulterated
	equal amount of hot water (bearable	from white to red/pink	with alkalizers
	to hand). Add 2-3 drops of	_	(NaOH/ Na ₂ CO ₃ /
	Phenolphthalein indicator.		NaHCO ₃)
2.	Add equal amount of water in 15-20	Lather is produced in	Milk is adulterated
	mL milk sample in a beaker and	huge amount	with soap
	shake it vigorously.	_	-



Activity II: To Test the Adulteration in Spices

a.) To Test the Foreign Material (sawdust) or Dye in Coriander Powder

Materials required: Test tubes, Test tube stand, Glass tumbler/ Beaker, Coriander powder,

Conc. Hydrochloric acid, Dropper/ pipette

S. No.	Procedure	Observations	Inference
1.	Add a teaspoon of coriander powder in a glass tumbler/	Some powder floats on the surface of water	The coriander powder is adulterated with
	beaker filled with around 50	Surface of Water.	sawdust
	mL of water.	The total amount of the	
		powder sinks at the bottom	The coriander powder is
		of glass tumbler/ beaker.	pure
2.	Take a teaspoon of coriander	Formation of instant	The coriander powder is
	powder in a test tube. Add few	reddish pink colour	adulterated with
	drops of conc. HCl		artificial colour/dye.



b.) To Test the Presence of Dyes/ Artificial Colour in Turmeric Powder

Materials Required: Test tubes, Test tube stand, Beaker, Turmeric powder, Conc. Hydrochloric acid, Dropper/ pipette,

Method	Procedure	Observations	Inference
1.	Take a beaker filled with	The turmeric powder	Turmeric powder is
	around 50 mL water. Add	instantly leaves bright	adulterated with lead
	1-2 teaspoon of turmeric	colour streaks.	chromate or any
	powder in it.		other colour
2.	Take a teaspoon of	Formation of instant	Turmeric powder is
	Turmeric powder in a	reddish pink colour	adulterated with
	test tube. Add few drops		artificial colour/ dye
	of conc. HCl.		(lead chromate/
			metanil yellow dye)



c.) To Test the Presence of Dye/ Red Artificial Colour in Red Chilli Powder

• Materials required:

Beaker, Chilli powder, Conc. Hydrochloric acid, Dropper/ pipette, Distilled water,

Glass rod, Test tubes, Test tube stand

S. No.	Procedure	Observations	Inference
1.	Take a beaker filled with	The chilli powder instantly	Chilli powder is adulterated with
	around 50 mL of water. Add	leaves red colour streaks.	colour/dye
	1-2 teaspoon of Chilli	The chilli powder will sediment	Chilli powder is pure
	powder in it.	at the bottom of beaker.	
2.	Take a teaspoon of Chilli	Formation of instant reddish	Chilli powder is adulterated with
	powder in a test tube. Add	pink colour.	artificial red colour/dye
	few drops of conc. HCl.		

3.	To a half teaspoon of Chilli	Brick red flame produced	The presence of calcium salts in
	powder, add few drops of		brick powder produces the red
	conc. HCl and mix to make		flame that indicates the
	the semi solid paste; dip the		adulteration.
	rear end of the glass rod in		
	the paste and hold over the		
	flame.		



• Results:

Spices	Sample Adulterated or Pure
Coriander powder	
Turmeric powder	
Chilli powder	

d.) To Check the Adulterant/ Foreign Materials in Cumin Seeds by Visual/ Physical Examination

• Materials required:

Beaker, Magnifying glass (if available), Distilled water, Filter paper, Cumin seeds

Method	Procedure	Observations	Inference
1.	Examine the seeds	Presence of seeds other	Cumin seeds are
	carefully (Magnifying glass	than cumin seeds.	adulterated with
	can be used, if available).		grass/other seeds.
	Cumin can be separated out		-
	from grass seeds on the		
	basis of their colour, shape,		
	and size.		
2.	Take a filter paper and	Seeds leaves black colour	Cumin seeds are
	evenly spread a teaspoon of	on filter paper	adulterated with
	cumin seeds on it. Sprinkle		colour/dye.

with water to wet the filter	
paper.	



e.) To Test the Presence of Papaya Seeds in Whole Black Pepper

• Materials required:

Beaker, Distilled water, Filter paper, Black pepper, Test tubes, Test tube stand

Method	Procedure	Observations	Inference
1.	Physical Examination-	Some seeds are black, rough	Black pepper seeds are
	Examine the seeds	and round while others are	adulterated with deep brown
	carefully.	shrunken, oval in shape and	coloured, shrunken, and oval
	Papaya seeds can be	deep brown in colour.	shaped papaya seeds.
	separated out from		
	pepper on the basis of		
	their colour and shape.		
2.	Gently press the seeds	Some seeds break easily	Papaya seeds are easily broken
	with the help of finger/	while others do not on	and are present as adulterant.
	pen.	pressing with finger or pen.	
3.	Put the sample of black	Some seeds float on water	Papaya seeds float on the water
	pepper in a beaker	surface while others settle	surface and are present as
	filled with water and	down at the bottom.	adulterant.
	leave it for some time.		



Activity III: To Check the Adulteration in Pulses/Legumes

• Materials Required:

Pulses (Arhar/ Moong), Test tubes, Magnifying glass, Beaker, Conc. Hydrochloric acid, Distilled water

a.) Presence of Lead Chromate/ Metanil Yellow Dyes in Pulses by Acid Method

Metho d	Procedure	Observations	Inference
1.	Take a clean dry test tube and half fill it with water. Now, add a teaspoon of pulse and mix. Add a few drops of HCl carefully; shake the test tube and observe.	Formation of instant pink colour	Lead Chromate/ Metanil Yellow dye is present in given sample.

b.) Presence of Other Dals/ Stones in Pulses by Visual Examination

Visual Detection:

Method	Procedure	Observations	Inference
1.	Physical Examination-	The sample has dal that has	Khesari dal/ stones are
	Examine the Arhar dal	edged type appearance and	present as adulterants in
	sample carefully	is slant on one side and	Arhar dal
		square in appearance	
		The sample has small stone pieces	



• Results:

Pulses/ Dal	Other grains/ stones etc.	Dyes
Sample A		
Sample B		
Sample C		

• Precautions:

• Wear gloves when using acids and handle carefully.

Activity IV: To Test the Purity of Honey

• Materials Required:

Water, Beaker, Honey samples, Cotton wick, Burner/ Spirit lamp

Method	Procedure	Observations	Inference
1.	Take a transparent glass	The Sample does not	The given honey
	tumbler/ beaker of	disperse in water.	sample is pure.
	water. Add some honey	The sample disperses in	The honey sample is
	to the glass tumbler and	water.	adulterated with sugar
	left it undisturbed for		syrup.
	few minutes.		
2.	Wick Test: Burn a cotton wick dipped in honey over the flame.	Cotton wick burns completely. Cotton wick burns with a crackling sound.	The given honey sample is pure. The honey sample is adulterated with sugar syrup.



• Results:

Honey Samples	Purity Test Using
	Water
Sample A	
Sample B	
Sample C	

• Precautions:

- 1. Handle the flame cautiously.
- 2. Hold the cotton wick with forceps or tongs while burning it.

Activity V: To Test the Artificial Dyes/ Coal Tar Dyes in Exhausted Tea Leaves

• Materials Required:

Different samples of tea leaves, water, filter paper, blotting sheet, porcelain glass/tile, bar magnet, slaked lime

Method	Procedure	Observations	Inference
1.	Take a filter paper and	Instant black brown stain	Given sample is
	spread a few tea leaves.	appears on the filter	adulterated with Coal
	Sprinkle with water to wet	paper.	tar/ artificial dyes.
	the filter paper.		
	Observe the filter paper	Light greenish yellow	The given sample is
	stains against light.	colour appears after	pure.
		some time due to the	
		presence of chlorophyll.	
2.	Spread some slaked lime	Red, orange or other	Coal tar dye/
	solution on white	shades of colour	artificial colour is
	porcelain tile/glass plate;	spreading on the slaked	present in the given
		lime.	sample.

	sprinkle some tea dust over it.		
3.	Move a bar magnet through the tea leaves sample.	Some iron fillings/dust cling with the magnet.	Tealeavesadulterated with ironfillings/dust.



Activity VI: To Test the Presence of Borate in Maida/Atta and Artificial Dye (Metanil Yellow) in Besan

• Materials Required:

Maida/Atta samples, Besan sample, Test tubes, Water, Conc. HCl, Turmeric Paper strips, Alcohol, Dropper

Method	Procedure	Observations	Inference
1.	Take a teaspoon of atta/	Turmeric paper strip	The given sample is
	maida sample in a test	changes from yellow to	adulterated with
	tube.	red colour	Borate.
	Add water in it and shake.		
	Add few drops of Conc.		
	HCl with the help of a		
	dropper.		
	Dip a turmeric paper strip.		
	Observe the change in		
	colour.		
2.	Take half teaspoon of	Formation of pink colour	The given sample is
	Besan in a test tube. Add 5-		adulterated with
	6 mL of alcohol and shake		metanil yellow dye.
	the contents. Then, add		
	few drops of HCl. Observe		
	the change.		



• Precautions:

- 1. Use gloves while handling acids.
- 2. Shake the contents of test tubes attentively.

Activity VII: To Check the Malachite Green or Rhodamine B Dyes in Vegetables and Fruits

• Materials Required:

Beaker, Water, Cotton, Liquid paraffin or oil, Green vegetables (Lady finger, Green chilli, Green peas), Sweet potato/Beet root

a.) To test the presence of Malachite Green dye/colour in green vegetables

Method	Procedure	Observations	Inference
1.	Take a cotton piece soaked	Cotton turns green in	The green vegetables
	in liquid paraffin/oil/water	colour.	are adulterated/ coated
	and rub the outer green		with malachite green
	surface of a small part of		dye.
	green vegetable.		
2.	Take a little amount of	Green peas will release	Green peas are
	green peas in a beaker. Add	colour in water.	adulterated with
	water to it and mix well. Let		Malachite Green dye.
	it stand for half an hour and		
	observe.		



(b.)To test the presence of Rhodamine B/ red colour in sweet potato or beet root

Method	Procedure	Observations	Inference
1.	Take a cotton piece soaked in	The cotton absorbs red	Rhodamine B/ red
	liquid paraffin/oil/water, and	colour	colour is coated on
	rub the outer surface of the		the outer surface of
	sweet potato.		sweet potato/ beet
	-		root.



Activity VIII: To Test the Presence of Iodine in Salt and Differentiate between Iodized and Common salt.

• Materials Required:

Beaker, Petri-dish or Watch glass, Spatula, Glass rod, Dropper, Potassium iodide, Starch (potato/ rice), Hydrochloric acid, Distilled water, Salt samples

• Procedure:

- Preparation of Solution A (KI-Starch Solution): Take 0.25 g of starch (crushed boiled potato or cooked rice water) and dissolve it in 20 mL distilled water. Then, take 1.25 g Potassium iodide and add in the above solution. Now, make the volume upto 50 mL by adding more distilled water.
- Preparation of Solution B: Add 2.5 mL Dilute Hydrochloric acid in 47.5 mL of distilled water.

Method	Procedure	Observations	Inference
1.	Take a teaspoon of salt	Blue colour is developed	Salt is iodized.
	samples A and B separately	in Sample A.	
	in a petridish. Add few drops		
	of Potassium iodide- starch		
	solution (Solution A).	No blue colour developed	Salt is not iodized.
	Now, Add Solution B to both	in Sample B.	
	the samples.		



To Find Out the Amount/ Concentration of Iodine in Salt by Performing Iodometric Titration

- Aim: Determination of iodine content in iodized salt by redox titration (iodometrically) using Sodium thiosulphate as an intermediate solution
- Apparatus required: Burette (50 mL), Burette stand, Clamp, Volumetric flasks, Pipettes, Conical flasks, Beakers, Droppers, Measuring cylinder, Test tubes, Cork, Spatula, Wash bottle, and Weighing balance
- Chemicals required: Dilute Sulphuric acid (2N), Potassium iodide solution, Standard Sodium thiosulphate solution, Starch solution, and Iodized salt sample
- **Principle/ Theory:** Iodometric titration is a method of volumetric chemical analysis, a redox titration where the appearance or disappearance of elementary iodine indicates the end point.

In this method, we determine the amount of iodate (IO_3^-) in Iodized salt by first reacting the iodate with added iodide (I^-) , under acid conditions, to produce iodine:

 $IO_3^- + 5I^- + 6H^+ \rightarrow 3I_2 + 3H_2O$

Then the resulting iodine is titrated with thiosulphate as follows:-

$$I_2 + 2S_2O_3^2 \rightarrow 2I^2 + S_4O_6^2$$

The free iodine (I_2) which remains in the solution as **KI**₃ complex is than titrated with sodium thiosulphate solution using starch as an indicator. At the end point of the titration, the blue colour (due to formation of starch-iodine complex) of solution will disappear.

In the titration of iodine starch should not be added before the end point is reached, if starch solution is added when the iodine concentration is high some iodine may remain adsorbed in starch resulting in incorrect readings.

• Procedure

Preparation of different reagents

Dilute Sulphuric Acid - Approximately 2 N (Add 8 mL of Dil. H₂SO₄ (2.5 N) into 2 mL of Distilled Water.

- 2. Potassium Iodide Solution Approximately 10 % (m/v).
- **3. Standard Sodium Thiosulphate Solution-** Prepare 0.005N solution by dissolving 1.25g of sodium thiosulphate AR grade in 1000 mL of distilled water.
- 4. Starch Solution- 1%, freshly prepared (m/v).

• Iodometric titration

Step I: Preparation of Salt Solution

Accurately weigh about 20 g dry salt sample and transfer to conical flask. Dissolve Dissolve it in about 100 mL water and acidify with 10 mL of dilute 2 N sulphuric acid.

Step II: Method

Add 10 mL of 10% potassium iodide solution. The contents of conical flask will turn deep blue-brown because of liberation of iodine. Titrate the liberated iodine against standard 0.005 N sodium thiosulphate solution until the solution becomes pale yellow. Introduce 2mL of starch solution and titrate with constant stirring. Record the end point when the blue colour just disappears.

Step III: Repeat Step I and II two more times.

Observations and Calculations

- **Colour changes** Solution containing iodine changes its colour from pale yellow to straw yellow (intermediate colour).
- End point Dark blue colour of starch disappears, showing completion of reaction.



Table: Titration of given Salt Solution against Standardized Sodiumthiosulphate Solution (Na2S2O3) solution

Burette: - Na₂S₂O₃ solution

Indicator Used: - Starch (1%)

Conical Flask: - Given Salt solution

End Point: - Dark blue colour disappears

Salt Solution in conical	Burette Readings (in mL)		Volume of Thiosul
flask	Initial	Final	solution used (in mL)
Ι			
II			
III			

• Method when Iodate is used for Iodizing the Salt

Iodine (I), ppm (on dry basis) =

Where,

V₁=volume in mL of 0.005N sodium thiosulphate solution required for titration;

F =;

which is a fixed value; for the given reaction, 1 mole of IO_3^- reacted with 6 moles of thiosulphate, F= X 126.9 (atomic mass of iodine) = 21.15

w = mass in g of the salt sample taken for analysis

• Results

In the given salt sample, the average iodine content is found to be 16.94 ppm (per kg).

Note: As per standards, Iodine content in salt at retail level should be 15-40 ppm (per kg).

Precautions

1. In the titration of iodine, starch should not be added before the end point is reached. If the starch solution is added when the iodine concentration is high some iodine may get adsorbed even at end point.

2. Handle the glassware carefully.

3. Do place beaker below the burettes before opening the tap to prevent unnecessary spilling of liquids.

4. Wear safety goggles and gloves.

5. Carefully handle the corrosive reagents.

(Reference: IS 7224:2006, Bureau of Indian Standards)

Reporting the Results of Study

All students of classes VI to XII of the selected schools have to carry out the study uniformly on 'Identification of Adulterants in Food' in different area(s). The results obtained by all the students for the activities should be submitted as per format given in the guidelines for each activity. The results of the study on 'Identification of Adulterants in Food'

are to be reported by each school (assigned teacher(s) for RAS 2023-24) by filling up the details in the Google form on the following link:

https://forms.gle/obD8eNkuVd59eu3J8

References:

- 1. IS 7224:2006, Bureau of Indian Standards
- 2. www.fssai.gov.in/upload/uploadfiles/files/pfa-acts-and-rules.pdf
- 3. https://eatrightindia.gov.in/dart/

PROCEDURE FOR FILLING GOOGLE FORM

Filling up Google Form is very easy. You need to have a Gmail account for filling this Google form.

 Once you have a working Google ID (Gmail), you can open any browser and copy/ type the following URL into browser:

https://forms.gle/obD8eNkuVd59eu3J8

- 2. Click on fill out form on the front page.
- 3. It will take you to the Section 1 where you need to enter the Gmail ID to proceed.

Food Adulteration
Data submission form - RAS 2023 डाटा प्रस्तुति फॉर्म
The name and photo associated with your Google account will be recorded when you upload files and submit this form. Your email is not a part of your response.
desmncertras2023@gmail.com
Instructions নির্বিযা
Click on the following link and go through the PDF carefully before proceeding further आगे बढ़ने से पहले, नीचे दिये लिंक पर क्लिक करें तथा PDF को ध्यानपूर्वक पढ़ें।
Help सहायता
Checkout announcement section on ncert.nic.in for all the updates regarding RAS 2023
For any assistance/help, kindly email us at <u>desmncertras2023@gmail.com</u> RAS 2023 के बारे में अधिक जानकारी के लिए ncert.nic.in पर घोषणा अनुभाग देखें। किसी भी तरह की सहायता के लिए हमें <u>desmncertras2023@gmail.com</u> पर ई-मेल करें।
desmncertras2023@gmail.com Switch account
* Indicates required question

Reference of the second	Rabara Arabara Sanah 2023-24. Tata data tata tata 2023-24. Tata 2023 - Jana 2023 -
Email *	
Your answer	
Name of the Student *	
Your answer	
Gender	
O Male	
O Female	
O Other	
Class of the Student *	
Your answer	
Next	Clear form
Never submit passwords through Google Forms.	
This content is neither created nor endorsed by Google. Report Abuse - \underline{T}	erms of Service - Privacy Policy
Google Forms	

4. After clicking on Next button, you will be taken to Section 2 of the Form, where you have to fill your State, District and School details like School Name, Address etc.

School details विद्यालय विवरण
State/Union Territory । राज्य/केंद्रशासित प्रदेश *
cnoose ¥
Name of District । जिले का नाम * Your answer
Block where School is located 1 ब्लॉक का नाम जहाँ पर विद्यालय स्थित हे. *
Your answer
Name of School विद्यालय का नाम *
Your answer
U-DISE code School विद्यालय का यू-डाइस कोड * Your answer
Address of School । विद्यालय का पता * Your answer
Pin code । पिन कोठ * Your answer
Locality of School (Urban/Semi-urban/Rurai) । विद्यालय के अवस्थिति (शहरी/अर्ध-शहरी/ * ग्रामीण)
O Rural। ग्रामीण
🔘 Semi-urban। अर्थ-যाहरी
O Urban । शहरी
Name of School Principal/Head of School । विद्यालय के प्रधानाध्यापक/ संचालक का नाम * Your answer
Name of Teacher(s) involved in guiding the activities क्रियाकलापों के समय + मार्गदर्शन करने वाले अध्यापक/ अध्यापकों का नाम
Your answer
Designation of Teacher(s) involved in guiding the activities । क्रियाकलापों के समय * मार्गदर्शन करने वाले अध्यापक/ अध्यापकों का पद
Your answer
Grade Level श्रेणी स्पर *
Ulass 6-8 (Middle Level) कक्षी 6-8 (मध्य स्तर)
Class 11-12 (Secondary Level- Phase 2) कक्षा 11-12 (माध्यमिक सार चरण - 2)
Back Next Clear form

Note: Select the Middle or Secondary level option from Grade Level for filling the activities result data.

5. After clicking on Next button, you will proceed to Section 3 of the Form. In this section, you have to fill the data for Activity I- I(a), I(b), I(c), and I(d).

1(a) (D) Flow test 대미 परिशा * Sample [귀곳] D hund with water [미리 리 리 리 리 리 리 리 리 리 리 리 리 리 리 리 리 리	1(a) (b) Flow text प्राष्ठ परिशण * Sample 1 नमूरा > Pure ! छंड Not Performed 1(a) (b) Using Lactometer तीवी गिरासाट > Not Performed 1(a) (b) Using Lactometer तीवी गिरासाट > Not Performed 1(b) To text the presence of starch in MIK, Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK, Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK, Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK, Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK, Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK, Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK Paneer, Khoya and Ghee [इंध, पती, * 1(b) To text the presence of starch in MIK Paneer, Khoya in MiK Paneer, Khoya in MiK Paneer, Khoya in MiK Paneer, Interfer 1(b) Parte Itiga 1(c) Part Itiga 1(c) Part Itiga 1(c) Part Itiga 1(c) Pa	vity i: To teat the adulteration in milk and its products । क्रियाकलाप I: दूध और उसके दो में मिलावट का परीक्षण To test the purity of milk ; दूध की युद्धता का परीक्षण करना
14) 00 Flow test 1] याष परिशाण - Sample 1 नम्सा Distance with water 11णी थी गिराशाः Not Performed 10: 01 Jung Lactometer 1 वीदी गिराशाः Distance with water 11णी थी गिराशाः Distance present 12 थी गिराशिशिः Distance present 12 थी गिराशिः Distan	10) (1) Flow Lest 1] यात्र परिवर 1 Sample 1 नमूता Not Performed 10) (1) Using Lactometer 1 रिपरीमींदर का प्रयोग - Sample 1 नमूता Distand with water 1 पानी थी गिलालट Not Performed 11) To Lest the presence of starch in Milk, Paneer, Khoya and Obee 1 हुए, प्रपी, 12) To Lest the presence of starch in Milk, Paneer, Khoya and Obee 1 हुए, प्रपी, 13) To Lest the presence of starch in Milk, Paneer, Khoya and Obee 1 हुए, प्रपी, 14) To Lest the presence of starch in Milk, Paneer, Khoya and Obee 1 हुए, प्रपी, 14) To Lest the presence of starch in Milk, Paneer, Khoya and Obee 1 हुए, प्रपी, 15) To Lest the presence of starch in Milk, Paneer, Khoya and Obee 1 हुए, प्रपी, 15) To Lest the presence of starch in Milk, Paneer, Khoya and Obee 1 हुए, प्रपी, 16) Pare 1 हुल 17) Pare 1 हुल 17000000000000000000000000000000000000	
Sample 1 국무대 이 Puel 1 정조 이 Nuclead with water 1 मानी की गिलागट 이 Nuclead with a Handrice 1 माने 1 मानि कि 1 माने	Sample [귀편편] Pure 1 평균 Pure 1 明균	a) (i) Flow test प्रवाह परीक्षण *
Pure 1 평균 Disted with water 1001 80 Distance Not Performed Sample 1 मुदा Pure 1 खुळ Disted with water 1001 80 Distance Disted with water 1001 80 Distance Not Performed T(J) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूध, परी, . Not Performed Not Performed Not Performed Pure 1 खुळ Starch present exit 40 StatR46 89 uthR400 Not Performed Not Performed Pure 1 खुळ Starch present exit 40 StatR46 Not Performed Not Performed Chore 1 पी * Starch present exit 40 StatR46 Starch present exit 40 StatR46 Not Performed Chore 1 U * Starch present exit 40 StatR46 Not Performed Not Performed Chore 1 U * Starch present exit 40 StatR46 Not Performed Not Performed Chore 1 U * Not Performed Not Performed Not Performed Chore 1 U * Not Performed Not Performed	Pure 평정 Distand with water [10नी की गिलावट] Charles Park Pure 1937 Distand with water [10नी की गिलावट] Distand breef off Distand कि प्रवाई मिल मिल प्रवाई मिल मिल प्रवाई मिल मात्र मिल प्रवाई मिल मात्र मिल प्रवाई मिल मात्र मिल प्रवाई मिल मात्र मिल मात्र मिल मात्र मिल माल मात्र मिल माल मात्र मिल मात्र मिल माल मात्र म	mple । नमूना
Image: Note Performed 10) Uning Lactometer चेवटी मीटर का प्रयोग - Sample ममूना Image: Note Performed 10) To test the presence of attach in Milk: Paneer, Khoya and Ghee दूस, प्रतीर, • Note Performed 10) To test the presence of attach in Milk: Paneer, Khoya and Ghee दूस, प्रतीर, • Note Performed 11) To test the presence of attach in Milk: Paneer, Khoya and Ghee दूस, प्रतीर, • Note Performed Paneer प्रतिर Image: Note Performed Paneer प्रतिर Image: Note Performed Paneer प्रतिर Paneer प्रतिर Image: Note Performed Paneer प्रतिर Paneer प्रतिर Image: Note Performed Paneer प्रतिर Image: Note Performed Note Performed Image: Note Performed Ima	Close type Durwer type	Dure 1977
Not Performed 1(a) (0) Using Lactometer जेवरी मीटर का प्रयोग - Sample नयूना Pure ! युव्व Diluted with water पानी की गिरावार: Not Performed 1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूप, पानीर, . Not Performed 1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूप, पानीर, . Not Performed 1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूप, पानीर, . Not Performed Paneer पानी * Starch present स्टार्ग की उपासिति Not Performed Khoya गावा * Starch present स्टार्ग की उपासिति Not Performed Khoya गावा * Starch present स्टार्ग की उपासिति Not Performed Khoya गावा * Not Performed Chee पी * Not Performed If (c) To test the presence of Urea in Milk दूप मे चुरिया की उपस्थिति का परीक्षण Not Performed If (c) To test the presence of Alkalizers (NaOH/ NAZCOJ/NaHCO3) and Soep in marking ut artereff का वाणी स्था Not Performed If (c) To test the presence of Alkalizers (NaOH/ NAZCOJ/NaHCO3) and Soep in marking ut artereff का वाणी	Not Performed 10) (b) Using Lactomeer वेपदी मीदेर का प्रयोग - Sample [नयता Dutued with water पानी की गिलावट Not Performed 11) (b) To test the presence of starch in Milk, Paneer, Khoya and Ghee [इंध, पानीर,, Nik çंu Pure ! ग्रंव Starch present et d की प्रपश्चिति का प्रतिक्षण करना Mik çiu Not Performed Pure ! ग्रंव Starch present स्रेपी की प्रपश्चिति Not Performed Paneer पतीर - Starch present स्रेपी की प्रपश्चिति Not Performed Pure ! ग्रंव Starch present स्रेपी की प्रपश्चिति Not Performed Khoya गारा + Pure ! ग्रंव Starch present स्रंपी की प्रपश्चिति Not Performed Khoya ! गारा + Pure ! ग्रंव Starch present स्रंपी की प्रपश्चिति Not Performed (c) To test the presence of trea in Milk ! git में प्रीरा की प्रपश्चिति का परीक्षण (c) To test the presence of trea in Milk ! git में प्रीरा की प्रपश्चिति का परीक्षण (c) No trea ! git खन नगग्ग (c) To test the presence of Alkalizers (NaOLY NazCOOJ/MalcOOJ and Seap in more treff and प्रपश्चित more treatereff का निर्का <td>) Diluted with water । पानी की मिलावट</td>) Diluted with water । पानी की मिलावट
• Not Performed • Pure 1 गुज़ • Diduced with water 1 गांची की गिलावट • Not Performed • Not Performed • Pure 1 गुज़ • Not Performed • Pure 1 गुज • Not Performed • Not Performed • Not Performed • Pure 1 गुज • Starch present 1 स्टार्ग की उपस्थिति • Not Performed	I (a) (b) Jaing Lactometer शेवटोमींटर का प्रयोग - Sample नम्हन Distant with water पानी की गितावट Distant with water पानी की गितावट Not Performed I (b) To test the presence of starch in Milk, Paneer, Khoya and Ghee इप, पानीर, • • • • • • • • • • • • • • • • • • •) Not Performed
(-) (1) Using Lactometer 학료ር मी दर का प्रयोग - Sample [नयहा - Pure 1 छुंद Diluted with water [पानी की गिहाइट Not Performed (-) To test the presence of starch in Milk, Paneer, Khoys and Ohee [उ, प्र, प्रगी, , , , , , , , , , , , , , , , , , ,	(a) (b) Using Lactometer] 하고 다 라 지 고 지 지 지 · · · · · · · · · · · · · · ·	
Sample 1 मुदा Dubued with water [पानी की गिलावट] Not Performed T(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee [डूप, पानीर,,,,,,,, .	Sample नमून। Pure युद्ध Not Performed 1(b) test the presence of starch in Milk, Paneer, Khoya and Ghee ट्र्स, पनीर, • nur, और सी में स्टार्च की उपस्थिति का परीक्षण करना Milk रूप Pure युद्ध Paneer पनी र • Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Paneer पनी र • Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Choya गाया • Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Choya गाया • Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Choya याया • Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Choya याया • Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Choya याया • Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Choya युद्ध का नागूता Not Orea प्रीरा की नागूति Not Performed 1(0) To test the presence of Alkalizers (NoOH/ Na2CO3/NaHCO3) and Soop In Not Performed 1(0) To test the presence of Alkalizers (NoOH/ Na2CO3/NaHCO3) and Soop In Natifagur करना Alkalizers दाराकरी वा प्रार्ग की Nater उपस्थिति Present उपस्थिति Not Performed	a) (ii) Using Lactometer । लेक्टोमीटर का प्रयोग *
Purce 1 सुद्र Not Performed T(b) To test the presence of starch in Milk, Pancer, Khoya and Ghee 1 डुप, पागेर, * Image: 1 प्रदा Imag	Pure ! सुद्ध Distand with watter ! मानी की गिलावर Not Performed 1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee ! दूरा, पनीर, • Image: Imag	mple। नम्ना
Pure 1 सुव Diubad with water यानी की गिलावट Not Performed 1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूप, पनीर, ''' Image: याती र' Pure 1 सुव Starch present रटार्ग की उपास्थिति का परीक्षण करना Milk दंग Pure 1 सुव Starch present रटार्ग की उपास्थिति Not Performed Pare 1 सुव Starch present रटार्ग की उपास्थिति Not Performed Khoya गावा * Pure 1 सुव Starch present रटार्ग की उपास्थिति Not Performed Khoya गावा * Pure 1 सुव Starch present रटार्ग की उपास्थिति Not Performed Chee पी * Pure 1 सुव Starch present रटार्ग की उपस्थिति Not Performed 1(c) To test the presence of Urea In Milk दूप में पुरिवा की उपस्थिति का परीक्षण Nik Sample दुप का नाम्गा Not Performed 1(d) To test the presence of Akalizers (NaOH/ Na2CO3/NaHCO3) and Soep In Wilk दूप में वारक्या के उपस्थिति का परीक्षण (d) To test the presence of Akalizers (NaOH/ Na2CO3/NaHCO3) and Soep In Wilk दूप में वारक्या के उपस्थिति का परीक्षण (e) Present	Pure! सुख Diluted with water IIFE की गिलासट NOT Performed If(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूस, पनीर, • If(a) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूस, पनीर, • If(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूस, पनीर, • If(c) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूस, पनीर, • Pure ! सुख Starch present स्टार्च की उपस्थिति Not Performed Pure ! सुख Starch present स्टार्च की उपस्थिति Not Performed Chee पी * Pure ! सुख Starch present स्टार्च की उपस्थिति Not Performed Chee पी * Pure ! सुख Starch present स्टार्च की उपस्थिति Not Performed Ghee पी * Not Performed If(c) To test the presence of Urea in Milk दूध में सुरिया की उपस्थिति का परीक्षण Not Performed If(d) To test the presence of Alkalizers (NoOH/ Na2CO3/NaHCO3) and Soap in multik दूप में सुराक्ष की उपस्थिति का परीक्षण करना If(d) To test the presence of Alkalizers (NoOH/ Na2CO3/NaHCO3) and Soap in multik दूप में सुराक्ष की उपस्थिति का परीक्षण करना If(d) To test the presence of Alkalizers (NoOH/ Na2	
Diluted with water [मनी की मिलाव? Not Performed T(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूस, पनीर, • मास, प्रेर पी में स्टार्च की उपस्थिति का परीक्षण करना Milk दूस Pure युद्ध Starch present स्टार्च की उपस्थिति Pure युद्ध Bach present स्टार्च की उपस्थिति Not Performed Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Khoya गावा * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Khoya (गावा * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Chee यी * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Itc) To test the presence of Ures in Milk दूध में युदिया की उपस्थिति का परीक्षण Not Performed Itd) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in ntilk दूप में वारचर्की की उपस्थिति का परीक्षण करना Itd) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in ntilk दूप में वारचर्की त्याक्र करा Itd) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in ntilk दूप मे	Diluted with water [मनी की गिलावर] Not Performed 1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूर, पनीर, * Milk ऱ्य Pure युद्ध Starch present स्टार्च की उपस्थिति का परीक्षण करना Not Performed Paneer पनीर * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Khoya गाया * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Khoya गाया * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Khoya गाया * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Chee पी * Not Performed Itscarch present स्टार्च की उपस्थिति Not Performed Itscarch present स्टार्च की उपस्थिति का प्टार्च के उपस्थिति का परीक्षण Not Per	Pure । युद्ध
Not Performed 1(b) To test the presence of stanch in Milk, Paneer, Khoya and Ghee दूस, पनीर, " Nik २व Pure युद्ध Starch present स्टार्थ की उपस्थिति का परीक्षण करना Not Performed Paneer पनीर * Pure युद्ध Starch present स्टार्थ की उपस्थिति Not Performed Pure युद्ध Starch present स्टार्थ की उपस्थिति Not Performed Khoya गाखा * Pure युद्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee पी * Pure युद्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee पी * Not Performed Its anch present स्टार्थ की उपस्थिति Not Performed Its anch present स्टार्थ की उपस्थिति Not Performed Its anch present स्टार्थ की उपस्थिति Not Performed Its anch presence of Urea in Milk दूध में यूरिया की उपस्थिति का परीक्षण Its anch present यदिशि का नगप्ता Not Performed Its anch present यदिशि कर्म करा Not Per	It(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee द्रुप, पनीर, • It(c) To test the presence of starch in Milk, Paneer, Khoya and Ghee द्रुप, पनीर, • Milk द्रुप Pure सुद्ध Starch present स्टार्थ की उपस्थिति का परीक्षण करना Not Performed Paneer पनीर • Pure सुद्ध Starch present स्टार्थ की उपस्थिति Not Performed Pure सुद्ध Starch present स्टार्थ की उपस्थिति Not Performed Khoya गाया * Pure सुद्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee पी * Pure सुद्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee पी * Not Performed It(c) To test the presence of Urea in Milk द्रुप में पुरिया की उपस्थिति का परीक्षण Not Performed It(k) To test the presence of Alkalizers (NoOH/ Na2CO3/NaHCO3) and Sopp in Nitk द्रुप में प्रार्थ करना It(k) To test the presence of Alkalizers (NoOH/ Na2CO3/NaHCO3) and रवाद्रुप के का परिक्षित का परीक्षण करना It(k) To test the presence of Alkalizers (NoOH/ Na2CO3/NaHCO3) and रवाद्रुप की का परिक्षित का परीक्षण करना It(k) To test the presence of Alkalizers (NoOH/ Na2CO3) Diluted with water पानी की गिलावट
1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee [몇 년, 따라, hot, and Ghee [몇 년, एमरी, hot, better and starch in Milk, Paneer, Khoya and Ghee [몇 년, एमरी, hot, better and starch in Milk, Paneer, Khoya and Ghee [몇 년, एमरी, hot, better and better	1(b) To test the presence of starch in Milk, Paneer, Khoya and Ghee द्रुघ, पनीर, Milk ऱ्य Pure युद्ध Starch present स्टार्च की उपस्थिति Pure युद्ध Starch present स्टार्च की उपस्थिति Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Khoya गावा * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Chee यी * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed Chee यी * Pure युद्ध Starch present स्टार्च की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk दूध में युरिया की उपस्थिति का परीक्षण Milk Sample दुप का नाम्रुवा Not Dreai म युद्ध में वार्यकी कर्चुयसिति का दि (d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In Nik [दुध में यात्स्याती कर्चक् Not Performed <	Not Performed
Huk, I देश Miki 2 २४ Pure I उद्धिः Starch present स्टार्थ की उपस्थिति Not Performed Paneer पनीर * Pure I उद्धिः Starch present स्टार्थ की उपस्थिति Not Performed Khoya गासा * Pure I पुद्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee धी * Pure I पुद्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee धी * Pure I पुद्ध Starch present स्टार्थ की उपस्थिति Not Performed (Chee धी * Pure I पुद्ध Starch present स्टार्थ की उपस्थिति Not Performed (Chee धी * Pure I पुद्ध Starch present स्टार्थ की उपस्थिति Not Performed (Chee धी * Pure I पुद्ध Starch present स्टार्थ की उपस्थिति Not Performed (Chee धी * Pure I पुद्ध Starch present स्टार्थ की उपस्थिति Not Performed (Chee धी * Pure I पुद्ध Starch present स्टार्थ की अपुधिति Pure I पुद्ध (Chee धी * Pure I पुद्ध (Chee धी * (Chee धी * Pure I पुद्ध (Chee धी * (Chee धी * (Che	Huk, and all a cells of Gutelin of Adaption over Milk । हुआ Pure । सुद्ध Starch present । स्टार्थ की उपस्थिति Not Performed Paneer । पतीर * Pure । सुद्ध Starch present । स्टार्थ की उपस्थिति Not Performed Khoya । गाया * Pure । सुद्ध Starch present । स्टार्थ की उपस्थिति Not Performed Chee । यी * Pure । सुद्ध Starch present । स्टार्थ की उपस्थिति Not Performed (hot Performed (hot Performed) (hot Performed (hot Performed) (hot Performed (hot Performed) (hot Performed)	b) To test the presence of starch in Milk, Paneer, Khoya and Ghee दूध, पनीर, * ज्ये और में से स्वयं की स्वयत्विक का समित्या करना.
Pure ! सुख Stack present ! स्टा व की उपस्थिति Not Performed Paneer ! पत्तीर * Paneer ! पत्तीर * Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Not Performed Khoya ! गाया * Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Pure ! सुख Stack present ! स्टार्ग की उपस्थिति Pure ! सुख Mik Sample ! सुख का नामूला Pure ! सुख Not Performed Pure ! सुख Mik Sample ! सुख का नामूला Pure ! सुख Not Performed Pure ! सुख	 Pure ! सुख starch present ! स्टार्थ की उपसिंधिति Not Performed Paneer ! पतीर • Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Khoya ! गाया * Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Chee ! थी • Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Chee ! थी • Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Pure ! सुख starch present ! स्टार्थ की उपसिंधति Not Performed Pure ! सुख का नमूसा No Urea ! सूरिया की उपसिंधति Urea !s present ! यरिया की उपसिंधति Not Performed Not Performed Not Performed Not Performed 	न, जार का न रहाव का छवारनारा का वरादाल करना। lk दुध
Pure । सुख अत्र Performed Paneer । पगीर * Pure ! सुख Starch present । स्टार्ग की उपस्थिति Not Performed Khoya गावा * Pure ! सुख Starch present । स्टार्ग की उपस्थिति Not Performed Chee पी * Pure ! सुख Starch present । स्टार्ग की उपस्थिति Not Performed Chee पी * Pure ! सुख Starch present । स्टार्ग की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk । दूर्घ में पुरिया की उपस्थिति का परीक्षण Not rea पुरिया की अनुपरियिति Urea is present । गुराय की उपस्थिति Not Performed (Not Performed (Jo test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In Trigat की उपस्थिति का परीक्षण (Milk दूर्घ मे वारचगी का का गि (NaOH/ Na2CO3/NaHCO3) and Soap In Trigat की उपस्थिति का परीक्षण करना (Akalizers यारकरा का का का की का का (NaOH/ Na2CO3/NaHCO3) and Soap In Trigat का	Pure सुख starch present स्टार्थ की उपसिंधीं। Not Performed Paneer पतीर • Pure मुख starch present स्टार्थ की उपसिंधीं। Not Performed Khoya गाता * Pure मुख Starch present स्टार्ल की उपसिंधीं। Not Performed Khoya गाता * Pure मुख Starch present स्टार्ल की उपसिंधीं। Not Performed Chee धी * Pure मुख Starch present स्टार्ल की उपसिंधीं। Not Performed Itel * Pure मुख Starch present स्टार्ल की उपसिंधीं। Not Performed Itel * Not Performed Not Performed Itel * Not Performed Not Performed Not Performed Itel * का स्प्रार्थ की अनुपरिधीं। Not Performed Itel * का साध की अपसिंधीं। Not Performed Itel * present सुरंध की अपसिंधीं Not Performed Itel * present उपसिंगत Not Performed Itel * present अ	
starch present स्टार्थ की उपस्थिति Not Performed Paneer पतीर * Pure युद्ध Starch present स्टार्थ की उपस्थिति Not Performed Khoya गावा * Pure युद्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee पी * Pure युद्ध starch present स्टार्थ की उपस्थिति Not Performed Chee पी * Pure युद्ध starch present स्टार्थ की उपस्थिति Not Performed (c) To test the presence of Urea in Milk द्वध में युरिया की उपस्थिति का परीक्षण No Urea युश्य की अनुपरियति Uraa is present ग्रीया की अनुपरियति Not Performed T(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In utalizer utalizer utalizer utalizer utalizer (NaOH/ Na2CO3/NaHCO3) and Soap In utalizer uta	starch present स्टार्थ की उपस्थिति Paneer पतीर * Pure युग्ध Starch present स्टार्थ की उपस्थिति Not Performed Khoya गाता * Pure युग्ध Starch present स्टार्थ की उपस्थिति Not Performed Choya गाता * Pure युग्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee थी * Pure युग्ध Starch present स्टार्थ की उपस्थिति Not Performed Chee थी * Not Performed Not Performed 1(c) To test the presence of Urea in Milk द्रध में युरिया की उपस्थिति का परीक्षण Not Performed 1(c) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In Milk द्रध में युरिया की उपस्थिति का परीक्षण कि प्राद्धिण करना Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In Milk द्रध में युराय करा Nakalizers यारवगरी कर्मक? Alkalizers यारवगरी कर्मक? Not Performed	Pure शुद्ध
Not Performed Paneer पतीर • Purel युद्ध Not Performed Khoya गावा • Purel युद्ध Starch present स्टार्ष की उपस्थिति Not Performed Chee यी • Purel युद्ध Starch present स्टार्ष की उपस्थिति Not Performed Chee यी • Purel युद्ध Starch present स्टार्ष की उपस्थिति Not Performed Chee यी • It(c) To test the presence of Urea in Milk द्वध में युरिया की उपस्थिति का परीक्षण Not Performed It(c) To test the presence of Urea in Milk द्वध में युरिया की उपस्थिति का परीक्षण Milk Sample दुष या गास्ता Not Urea युद्ध की नास्ता Not Performed It(c) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in milk द्वध में युरिया करना Milk [द्वध ने नास्ता Not Performed It(a) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in milk द्वध कराता Mikk [द्वध न नास्ता Present उपस्थिति कर्मकरे Present उपस्थिति Not Performed Soap राखुन • Soap राखुन • Pr	Not Performed Paneer पतीर * Pure युद्ध Starch present स्टार्ग की उपस्थिति Not Performed Khoya गाता * Pure युद्ध Starch present स्टार्ग की उपस्थिति Not Performed Chee पी * Pure युद्ध Starch present स्टार्ग की उपस्थिति Not Performed Chee पी * Pure युद्ध Starch present स्टार्ग की उपस्थिति Not Performed It(c) To test the presence of Urea in Milk द्रध में युरिया की उपस्थिति का परीक्षण Milk Sample द्रध का नगट्ता No Urea युदिया की अनुपरियति Urea is present ग्रिया गी उपसिगति Not Performed It(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In Milk द्रध में यु य न तरावाल की उपस्थिति का परीक्षण करना Nat Performed It(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In Milk द्रध में यु य न तरावाल की उपस्थिति का परीक्षण करा Naters उपस्थित Present जरारित Absent अनुपरित Not Performed	Starch present स्टार्च की उपस्थिति
Pareer पतीर - Pure युद्ध Starch present दर्षा वे की उपसिंगते Not Performed	Paneer पतीर - Pure युद्ध starch present स्वर्ग की उपसिक्षि Not Performed Khoya गावा * Pure युद्ध starch present स्वर्ण की उपसिक्षि Not Performed Chee पी * Pure युद्ध starch present स्वर्ण की उपसिक्षि (c) To test the presence of Urea In Milk द्वध में पुरिपा की उपसिक्षिते का परीक्षण ver गा (c) To test the presence of Urea In Milk द्वध में पुरिपा की उपसिक्षिते का परीक्षण er राग No Urea युद्धि का नगट्या (d) To test the presence of Alkalizers (NaOH/ NaZCO3/MaHCO3) and Soap In utal are करना Alkalizers यादगरी कर्मक (NaOH/ NaZCO3/MaHCO3) और साबुन की उपसिक्षिक्ष करा Present उपसिक्षत Alkalizers यादगरी कर्मक	Not Performed
Pure युद्ध Starch present स्टार्ग की उपसिंगते Not Performed Khoya गाया * Pure युद्ध Starch present स्टार्ग की उपसिंगते Not Performed Chee पी * Pure युद्ध Starch present स्टार्ग की उपसिंगते Not Performed Chee पी * Pure युद्ध Starch present स्टार्ग की उपसिंगति Not Performed (c) To test the presence of Urea in Milk दूध में पूरिया की उपसिंगति का परीक्षण Milk Sample दुध का नगराग No Urea युदिध का अनुपरिधिति Urea is present उपसिंगति कर्मक Not Performed Klaurers यारवगरी कर्मक Present उपसिंगत Not Performed Scap यादुन * Present अपुर्यिति Not Performed Not Performed Not Performed	Pure ! युद्ध starch present ; स्टार्ग की उपस्थिति Not Performed Pure ! युद्ध starch present ; स्टार्ग की उपस्थिति Not Performed	neer। पनीर *
rure i कुव Starch present i स्टार्ग की उपसिंग्रें Not Performed Puro ! शुद्ध Starch present i स्टार्ग की उपसिंग्रें Not Performed Chee पी * Puro ! शुद्ध Starch present i स्टार्ग की उपसिंग्रें Not Performed Chee पी * Puro ! शुद्ध Starch present i स्टार्ग की उपसिंग्रें Starch present i स्टार्ग की उपसिंग्रें Not Performed 1(c) To test the presence of Urea in Milk दूध में पूरिया की उपस्थिति का परीक्षण wtrait No Urea शुदिया का नग्रहा। No Urea शुदिया की अनुपरिंथति Urea is present ग्रीरंग की उपसिंगति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Niki sigu में वारकगरी कर्माक्ष (NaOH/ Na2CO3/NaHCO3) और साखुन की उपस्थिति का परीक्षण करनग Alkalizers ग्रीतरांगरी कर्माक Present उपस्थिति Not Performed Scap दाखुन * Present अपुर्गित Not Performed Scap दाखुन * Not Performed	rure i कुल Starch present स्टार्ग की उपसिक्षि Not Performed Huro शुद्ध Starch present स्टार्ग की उपसिक्षि Not Performed Chee गी - Pure शुद्ध Starch present स्टार्ग की उपसिक्षि Not Performed Chee गी - Pure शुद्ध Starch present स्टार्ग की उपसिक्षि Not Performed 1(c) To test the presence of Urea in Milk द्वर्ध में यूरिया की उपस्थिति का परीक्षण Nilk Sample दूध का नग्रहा Not real गृश्य की अनुपरिक्षि Urea is present युरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in utility i युर्ध में दारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in utility द्वर्ध में दारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in utility द्वर्ध में दारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in utility द्वर्ध में दारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in utility द्वर्ध में दारकारी कर्मक Present उपस्थित Alkalizers धारकारी कर्मक Not Performed	A Dura L TIT
Not Performed Not Performed Khoya गाता * Pure धुद्ध Starch present स्टार्भ की उपस्थिति Not Performed Chee धी * Pure धुद्ध Starch present स्टार्भ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk दूध में धूरिया की उपस्थिति का परीक्षण wtrait Milk Sample दूध का नग्रहा। No Urea धूरिया की अनुपरिधिति Urea is present धूरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in trरिधुया करनग Alkalizers दारयगरी कर्माक Present उपस्थिति का Not Performed Scoap दााडुन * Present अप्रियति Not Performed	Not Performed Not Performed Pure शुद्ध Starch present ररार्थ की उपसिक्षि Not Performed Chee धी * Pure शुद्ध Starch present ररार्थ की उपसिक्षि Not Performed 1(c) To test the presence of Urea in Milk द्वध में यूरिया की उपस्थिति का परीक्षण Nik Sample दूध का नग्रहा Not real गृश्य की अनुपरिक्षि Urea is present युरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in utilation करना Alkalizers धारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का utilation Present उपस्थित Absent अनुपर्षित Not Performed	ा Fare) मुख्य) Starch present । सगर्व की उपस्थिति
 मण्ड मण्डमाध्याय भण्ड मण्डमा । स्टार्म की उपस्थिति Starch present । स्टार्म की उपस्थिति Not Performed Chee । धी * Pure । धुद्ध Starch present । स्टार्म की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk । द्वध में पुरिया की उपस्थिति का परीक्षण actart present । स्टार्म की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk । द्वध में पुरिया की उपस्थिति का परीक्षण actart present । स्टार्म की अनुपरिक्षिति No Urea । धुरिया की अनुपरिक्षिति No Urea । धुरिया की अनुपरिक्षिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in milk । द्वध में धुरिया कराया Alkalizers । धारयगरी कर्माक? Present । उपस्थिति कर्मक Present । उपस्थिति Not Performed Scap । दाादुन * Present । अनुपर्क्षित Absent । अनुपर्क्षित Not Performed 	Khoya गारा * Pure शुद्ध Starch present ररार्थ की उपसिक्षि Not Performed Chee धी * Pure शुद्ध Starch present ररार्थ की उपसिक्षि Not Performed 1(c) To test the presence of Urea in Milk द्वध में यूरिया की उपस्थिति का परीक्षण Nik Sample तूध का नग्रहा Not real गृश्य की अनुपरिक्षि Urea is present गृश्या की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in traftarm करना Nik I; दूध में दारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in traftarm करना Alkalizers धारकारी कर्मका (NaOH/ Na2CO3/NaHCO3) and Soap in traftarm करना Akalizers धारकारी कर्मका Present उपस्थित Absent अनुपर्थित Not Performed	Not Performed
Khoya गाया * Puro ! शुद्ध Starch present ! स्टार्च गी उपसिक्षते Not Performed Ghee ! पी * Puro ! शुद्ध Starch present ! स्टार्च गी उपसिक्षति Not Performed Ic(c) To test the presence of Urea in Milk ! दूध में पूरिया की उपस्थिति का परीक्षण Milk Sample तूष का नगृता Milk Sample तूष का नगृता Not Urea ! शृश्य का नगृता Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in not the stressent ! ग्रीरया की उपस्थिति का परीक्षण करना Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in not tradate का कराक्षे की उपस्थिति का परीक्षण करना Not Performed Scoap राष्ट्- Present उपस्थित Not Performed	Khoya गाया * Puro शुद्ध Starch present दरार्थ गी उपसिंगते Not Performed Chee पी * Starch present रार्थ वी उपसिंगति Not Performed 1(c) To test the presence of Urea in Milk द्वर्ध में युरिया की उपस्थिति का परीक्षण करना Milk Sample द्वर्ध यंग नग्ग्ग Milk Sample द्वर्ध यंग नग्ग्ग No Urea युरिया की उपस्थिति Urea is present ग्रीया की उपस्थिति No Urea युरिया की उपस्थिति No Urea युरिया की उपस्थिति Milk द्वर्ध में artरकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in tratagram करा 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in tratagram करा Alkalizers यारवारी कर्मक Present उपस्थित Absent अगुराष्टित Mot Performed	Not Performed
Puro युद्ध Starch present स्टार्भ गी उपसिंगते Not Performed Chee पी = Puro युद्ध Starch present स्टार्भ गी उपसिंगते Not Performed	Pure सुद्ध Starch present स्टार्भ मी उपसिंगते Not Performed Chee पी * Pure सुद्ध Starch present दरार्भ मी उपसिंगते Not Performed 1(c) To test the presence of Urea in Milk दूध में पुरिपा मी उपस्थिति का परीक्षण wilk Sample दूध का नगृता No Urea पुरिपा की अनुपरिंथति Urea is present ग्रुरेगा की उपस्थिति No Urea पुरिपा की अनुपरिंथति No Urea पुरिपा की अनुपरिंथति No Urea पुरिपा की अनुपरिंथति Urea is present ग्रुरेगा की उपस्थिति का परीक्षण Not Performed	oya मावा *
Pure I सुंख Starch present रसार्ष की उपसिंग्ति Not Performed Chee धी * Pure सुंख Starch present रसार्ष की उपसिंग्ति Not Performed 1(c) To test the presence of Urea in Milk दूध में युरिया की उपस्थिति का परीक्षण करना Milk Sample तूष का नग्रहा। No Urea ग्रुरिया की उपस्थिति Urea is present ग्रुरिया की उपस्थिति Urea is present ग्रुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk [दूध में वारकारी कर्मक] Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk [दूध में वारकारी कर्मक] Alkalizers दारकारी कर्मक] Alkalizers दारकारी कर्मक] Present उपस्थिति Not Performed Soap रााबुन * Present उपस्थित Absent अनुपर्थित Absent अनुपर्थित Absent अनुपर्थित Absent अनुपर्थित Not Performed	Pure ! सुंख Starch present ! स्टार्थ की उपस्थिति Not Performed Chee ! धी * Pure ! सुंख Starch present ! स्टार्थ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk ! द्वध में पुरिया की उपस्थिति का परीक्षण wरना Milk Sample ! द्वय का गएता No Urea ! पुरिया की अनुपरिंथति Urea is present ! गुरेया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ NaZCO3/NaHCO3) and Soap in Milk ! द्वय के दर्पा का उपस्थिति का परीक्षण करना Alkalizers ! दाराकारी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Milk ! द्वय के उपस्थिति का परीक्षण करना Alkalizers ! दाराकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in Milk ! द्वय के दाराकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in Milk ! द्वय के दाराकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in Milk ! द्वय के दाराकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in Milk ! द्वय के दाराकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap in Milk ! द्वय के दाराकारी कर्मक Present ! उपस्थिति Absent ! अनुपरित Not Performed	
starter present स्टान की उपस्थित Not Performed Chee धी * Pure धुद्ध Starch present रटार्थ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk दूध में धुरिया की उपस्थिति का परीक्षण करना Milk Sample दूध का नगृता Not Vrea धृरिधा की अनुपरिधिति Urea is present गुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk दूध में वारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साचुन की उपस्थिति का परीक्षण करना Alkalizers दायकारी कर्मका Present उपस्थिति Not Performed Soap साचुन * Present अनुपरिक्षित Absent अनुपरिक्षित Not Performed	Startin present रहम का उपासांव Not Performed Chee धी * Pure धुद्ध Starch present रदार्थ की उपरिषति Not Performed 1(c) To test the presence of Urea in Milk दूध में घुरिया की उपस्थिति का परीक्षण Milk Sample दूध का नगट्ना No Urea धृरिया की अनुपरिषति Urea is present गुरिया की उपस्थिति Not Performed	Pure युद्ध
Chee धी * Pure धुद्ध Starch present रदार्थ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk दूध में घुरिया की उपस्थिति का परीक्षण करना Milk Sample तूथ का नग्रहा। No Urea युरिया की अनुपरिधिति Urea is present गुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk दूध में दारकारी कर्मका Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk दूध में दारकारी कर्मका Nate Arrow To Total Alkalizers दारकारी कर्मका Present उपस्थिति का परीक्षण करा Soap साबुन * Present अपुर्यास्थित Absent अपुर्यासित Not Performed	Chee धी * Pure धुद्ध Starch present स्टार्थ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk द्वध में घुरिया की उपस्थिति का परीक्षण करना Milk Sample द्वध का नगट्ना No Urea धृरिया की अनुपरिंथति Urea is present ग्रुरेगा की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध में बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध में बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) and Soap in Nilk द्वध के बाराकनरी कर्मको (NaOH/ NaZCO3/NaHCO3) Present उपस्थिति - Akalizers धारकनरी कर्मक - Not Performed - Soap सास्त * -	Not Performed
Chee थी * Pure शुद्ध Starch present दर्श्व की उपसिंधि Not Performed 1(c) To test the presence of Urea in Milk द्वर्ध में यूरिया की उपस्थिति का परीक्षण करना Milk Sample दूध का गगूला No Urea यूरिया की अनुपरिंधि Urea is present ग्रुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap In Milk [यूध में वारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) and Soap In Milk [यूध में वारकारी कर्मक Alkalizers यादयारी कर्मक Present उपस्थिति Not Performed Soap यादुन * Present अपूर्षस्थित Absent अपूर्षस्थित Not Performed	Chee थी = Pure शुद्ध Starch present रंगर्भ थी उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk द्वर्ध में पूरिया की उपस्थिति का परीक्षण Milk Sample द्वर्ध का नगट्गा No Urea पूरिया की अनुपरिंधति Urea is present गुरेया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Natifiare का परीक्षण करना Alkalizers दारकपरी कर्मकी (NaOH/ Na2CO3/NaHCO3) and Soap in Natifiare की उपस्थिति का परीक्षण करना Alkalizers दारकपरी कर्मक Present उपस्थित Alkalizers दारकपरी कर्मक	
Pure शु-अ Starch present ररार्थ की उपरिधति Not Performed 1(c) To test the presence of Urea in Milk द्वरंध में युरिया की उपरिधति का परीक्षण mik Sample द्वय का नगृता Not Urea शू-शिया की अनुपरिधति Urea is present युरिया की अनुपरिधति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk द्वय में वारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का परीक्षण करना 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk द्वय में वारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का परीक्षण करना Alkalizers धारवगरी कर्मक Present उपस्थिति Not Performed Soap साबुन * Present अप्रियं Absent अनुपर्थित Absent अप्रुपर्थित Absent अप्रुपर्थित Not Performed	Pure शुद्ध Starch prosent रदार्थ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk द्वर्ध में यूरिया की उपस्थिति का परीक्षण wiki Sample दूख का नगृता No Urea यूरिया की अनुपर्श्विति Urea is present ग्रुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in utilation करना 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in utilation करना Alkalizers दारवरी कर्मक Present उपसित Absent अनुपर्शित Not Performed	ee ! યી *
Starch present स्टार्थ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk दूध में पूरिया की उपस्थिति का परीक्षण करना Milk Sample दूध का नगट्ना No Urea यूरिया की अनुपरिधिति Urea is present ग्रुरिया की उपस्थिति No Urea यूरिया की अनुपरिधिति Idea present ग्रुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk दूध में दाराकारी कर्माको उपस्थिति का परीक्षण करना Alkalizers धारयगरी कर्माक Present उपस्थिति Not Performed Soap राावुन * Present अरियदित Absent अरुपरिति Absent अरुपरिति Not Performed	Starch present । स्टार्थ की उपस्थिति Not Performed 1(c) To test the presence of Urea in Milk । दूर्ध में पूरिया की उपस्थिति का परीक्षण करना Milk Sample । दूख का नगृता Urea is present । गुरिया की उपस्थिति Urea is present । गुरिया की उपस्थिति Not Performed) Pure 빅c
Not Performed I(c) To test the presence of Urea in Milk । द्वर्ध में घूरिया की उपस्थिति का परीक्षण करना Milk Sample दूध का नगृता No Urea ! धृरिया की अनुपरिंधिति Urea is present ग्रीराग की उपसिति Not Performed I(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Nilk द्वर्ध में बारकारी कर्माकी (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का परीक्षण करना Alkalizers धारयगरी कर्मक Present उपस्थित Not Performed Soap साबुन * Present अपियी Absent अनुपर्वित Absent अनुपर्वित Not Performed	Not Performed 1(c) To test the presence of Urea in Milk । द्वंध में यूरिया की उपस्थिति का परीक्षण करना Milk Sample । द्वंध का नग्रहा Image: Sample : द्वंध का नग्रहा Not Urea ! यूरिया की अनुपरिंधति Urea is present ! ग्रुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in utilatur करना Alkalizers यादकारी कर्मका Present उपस्थित Absent अनुपर्थित Not Performed) Starch present स्टार्च की उपस्थिति
1(c) To test the presence of Urea in Milk द्रुध में युरिया की उपस्थिति का परीक्षण करना Milk Sample द्रुष का नग्रहा No Urea युरिया की अनुपरिंथिति Urea is present युरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk I द्रुध में वारकारी कर्मकों (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का Milk I द्रुध में वारकारी कर्मक Present उपस्थित Absent अनुपर्थित Not Performed	1(c) To test the presence of Urea in Milk । दूध में घूरिया की उपस्थिति का परीक्षण • करना	Not Performed
I(c) To test the presence of Urea in Milk द्वर्ध में पुरिया की उपस्थिति का परीक्षण करना Milk Sample द्वुध का नगृता No Urea पुरिया की अनुपरिंथति Urea is present ग्रुरिया की उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk द्वुध में वारकारी कर्मको (NaOH/ Na2C03/NaHC03) and Soap in Milk c) Present उपस्थिति Not Performed	1(c) To test the presence of Urea in Milk । द्वध में यूरिया की उपस्थिति का परीक्षण करना Milk Sample । द्वध का नगृता No Urea । यूरिया की अनुपरिंधति Urea is present । ग्रुरिया की उपसिंति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ NaZCO3/NaHCO3) and Soap in uरीक्षण करना 1(d) To test the presence of Alkalizers (NaOH/ NaZCO3/NaHCO3) and Soap in uरीक्षण करना Alkalizers दारारगरी कर्मको (NaOH/ NaZCO3/NaHCO3) और साबुन की उपस्थिति का uरीक्षण करना Alkalizers दारारगरी कर्मक? Present उपस्थिति Absent अनुपर्थित Soap राषदन *	
Milk Sample दुष का नगूता No Urea धृरिवा की अनुपरिंधति Urea is present ग्रीरंग की उपसिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk दूध में दारकारी कर्मकों (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का Hiki दूध में दारकारी कर्मक Alkalizers दारकारी कर्मक Present उपसित Absent अनुपर्शित Not Performed Present उपश्चित	Milk Sample दुष का नगूता No Urea सूरिया की अनुपरिंसि Urea is present ग्रुरेगा की उपस्मिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk दूष में शारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का utigur करना Alkalizers शारकारी कर्मक Present उपस्थित Absent अनुपश्चित Not Performed	:) To test the presence of Urea in Milk दूध में यूरिया की उपस्थिति का परीक्षण * रना
No Urea 4jkul की अनुपरिंधति Urea is present गुरिया की उपसिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in milk zgu में antanti कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का परीक्षण करना Alkalizers धारकारी कर्मको Present उपस्थित Absent अगुर्घाक्षेत Not Performed Soap रााबुन • Present उपस्थित Absent अगुर्घाक्षेत Not Performed Soap रााबुन • Present उपस्थित Absent अगुर्घाक्षेत	No Urea ধূkul কী অনুধৰ্ষিকি Urea is present ग्रीरंग की उपसिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk द्रुध में दारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का Akalizers दारकारी कर्मक Present उपसित Absent अनुपरिवत Not Performed	lk Sample दूध का नगूना
Urea is present য্যৃথা গণী उपस्थिति Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk द्रुध में शारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का Uthalur करना Alkalizers श्रीएकारी कर्मक Present उपस्थित Absent अगुराशित Soap रााबुन * Present अपूर्धासेत Absent अपूर्धासेत Not Performed Soap रााबुन * Present अपूर्धासेत Absent अपूर्धासेत Not Performed	Urea is present যুरিया गरी उपसिति Not Performed) No Urea । यूरिया की अनुपरियति
Not Performed (d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Mikk । ব্রুথ में शारकारी कर्मको (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का tRailzers शारकारी कर्मक Present उपस्थित Absent अनुपर्थित Not Performed Not Performed Not Performed	Not Performed 1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk यूथ में दारकारी कर्मकों (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का Alkalizers धारकारी कर्मक Present उपसित Absent अगुपाशित Not Performed) Urea is present यूरिया की उपस्थिति
1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHGO3) and Soap in Milk i द्रुध में (तारकारी कर्मको (NaOH/ Na2CO3/NaHGO3) और साचुन की उपस्थिति का Alkalizers धारकारी कर्मक Present उपस्थित Absent अगुपस्थित Not Performed Present उपस्थित Absent अगुपस्थित Absent अगुपस्थित Not Performed	1(d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in Milk । द्रुध में क्षारकारी कर्मकों (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का सरीक्षण करना Alkalizers । क्षारफारी कर्मक Present । उपसित Absent । अनुपक्षित Not Performed Soap राष्ट्रन *	Not Performed
Alkalizers धारकारी कर्मक Present उपस्थित Absent अगुपस्थित Not Performed Soap रााबुन * Prosent उपस्थित Absent अगुपस्थित Not Performed	Alkalizers ধাৰ্যকাৰ্যী কৰ্মক Present তদাখিন Absent अনুযন্ধিনে Not Performed Soap যাৰ্শ *	d) To test the presence of Alkalizers (NaOH/ Na2CO3/NaHCO3) and Soap in * lk। दूध में द्वारावगरी कर्माकों (NaOH/ Na2CO3/NaHCO3) और साबुन की उपस्थिति का द्विण करना
Present । उपासित Absent । अगुपसित Not Performed	 Present। उपस्थित Absent। अनुपरिगत Not Performed Soap। ব্যারন *	calizers । क्षारकारी कर्मक
 Absent अनुपश्चित Not Performed Soap साबुन * Present अनुपश्चित Absent अनुपश्चित Not Performed 	Absent ওন্যবিগ Not Performed) Present। उपस्थित
 Not Performed Soap साबुन * Present उपश्चित Absent उग्रपश्चित Not Performed 	ি Not Performed Soap साहन *) Absent সন্দেষ্টির
Soap । साबुन * Present । उपरिषद Absent । अनुपरिषत Not Performed	Soap साल्न *) Not Performed
Soap साहुन * Present उपस्थित Absent अनुपशित Not Performed	Soap साल्न *	
 Present । उपरिषत Absent । अनुपरिषत Not Performed 		ap । सालुन *
Absent। अनुपरिंग्त Not Performed	O Present उपस्थित	i Present
O Not Performed	O Absent। अनुपस्थित	Absent अनुपस्थित
	O Not Performed	Not Performed

6. After clicking on Next, you will move to Section 4 of the Form. In this, you must fill out data for Activity II- II(a), II(b), II(c), II(d), and II(e).

Activity II: To Test the Adulteration (dyes/ foreign material) in Spices क्रियाकलाप II: मसालों में मिलावट (रंजकों/ बाहरी सामग्री) का परीक्षण करना
II (a) Coriander Powder धनिया पाउडर * Dye रंजक
O Present। उपस्थित
Absent। अनुपश्चित
O Not Performed
Foreign material। बाहरी सामग्री *
O Present। उपस्थित
🔿 Absent। अनुपस्थित
Not Performed
ll (b) Turmeric Powder हल्दी पाउडर *
Dyel रंजक
🔿 Present। उपस्थित
🔿 Absent। अनुपस्थित
O Not Performed
Foreign material। बाहरी सामग्री *
O Present। उपस्थित
🔿 Absent अनुपस्थित
O Not Performed
II (c) Chilli Rowder । सिर्ण पाउटा र
Dvel (vita)
C Pressent J JII BIG
Not Performed
0
Foreign material। बाहरी सामग्री *
🔿 Present। उपस्थित
🔿 Absent अनुपस्थित
O Not Performed
II (d) Cumin Seeds जीरा *
Not Performed
_
Foreign material। बाहरी सामग्री *
🔿 Present। उपस्थित
🔿 Absent । अनुपस्थित
O Not Performed
II (e) Papaya Seeds in Black Pepper। काली मिर्च में पपीते के बीज *) Present। उपस्थित
O Absent। अनुपस्थित
Not Performed
Back Next Clear form
Never submit passwords through Google Forms.
Google Forms

7. After clicking on Next, you will move to Section 5 of the Form. In this, you must fill out data for Activity III- III(a), and III(b).

Activity III: To check the adulteration in Pulses/Legumes क्रियाकलाप III: दालों में मिलावट की जाँच करना
III (a) Lead Chromate/ Metanil Yellow dye in Arhar/toor dal अरहर/ तूर दाल में लेड * क्रोमेट/ मेटैनिल येलो रंजक की उपस्थिति
○ Present।उपस्थित
🔿 Absent । अनुपस्थित
O Not Performed
III (b) Presence of other dal or stones in pulses। दालों में अन्य दाल या पत्थरों की * मिलावट
○ Present।उपस्थित
🔿 Absent अनुपस्थित
O Not Performed
Back Next Clear form
Never submit passwords through Google Forms.
This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy
Google Forms

8. After clicking on Next, you will move to Section 6 of the Form. In this, you must fill out data for Activity IV- IV(1), and IV(2).



9. After clicking on Next, you will move to Section 7 of the Form. In this, you must fill out data for Activity V- V(a), and V(b).

Activity V: To test the Artificial Dyes/ Coal Tar Dyes/ Iron fillings in Exhausted Tea Leaves क्रियाकलाप V: पूर्व प्रयुक्त चाय की पत्ती में कृत्रिम रंजकों/ कोलतार रंजकों/ लौह कण का परीक्षण करना
V (a) Dye रंजक *
O Present।उपस्थित
🔿 Absent अनुपस्थित
O Not Performed
V (b) Iron fillings/ dust लौह कण/ धूल *
○ Present।उपस्थित
🔿 Absent अनुपस्थित
O Not Performed
Back Next Clear form
Never submit passwords through Google Forms.
This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy
Google Forms

10. After clicking on Next, you will move to Section 8 of the Form. In this, you must fill out data for Activity VI- VI(1), and VI(2).

Activity VI: To test the presence of Borate in Maida/Atta and Metanil Yellow in Besan क्रियाकलाप VI: मैदा/ आटा में बोरेट और वेसन में मेटैनिल येलो की उपस्थिति का परीक्षण
VI (1) Borate in Maida/ Atta Sample मैदा/ आटा में बोरेट *
O Present। उपस्थित
🔿 Absent अनुपस्थित
O Not Performed
VI (2) Metanil Yellow in Besan। वेसन में मेटैनिल येलो *
O Present। उपस्थित
🔿 Absent । अनुपस्थित
O Not Performed
Back Next Clear form
Never submit passwords through Google Forms.
This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy
Google Forms

11. After clicking on Next, you will move to Section 9 of the Form. In this, you must fill out data for Activity VII- VII(a), and VII(b).

Activity VII: To Check the dyes in Vegetables and Fruits क्रियाकलाप VII: सब्जियों और फलों में रंजकों की जाँच करना
VII (a) Malachite Green Dye in Green Vegetables हरी सळ्जियों में मैलाकाइट ग्रीन 🔹 * रंजक की मिलावट
O Present। उपस्थित
🔿 Absent । अनुपस्थित
O Not Performed
VII (b) Rhodamine B Dye in Sweet potato/ Beet root शकरकंद या चुकंदर में * रोडामाइन बी की मिलावट
○ Present।उपस्थित
🔿 Absent अनुपस्थित
O Not Performed
Back Next Clear form
Never submit passwords through Google Forms.
This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy
Google Forms

12. After clicking on Next, you will move to Section 10 of the Form. In this, you must fill out data for Activity VIII- Qualitative and Quantitative tests.

Activity VIII: To test the presence of Iodine in Salt Samples क्रियाकलाप VIII: नमक के नमूनों में आयोडीन की उपस्थिति का परीक्षण करना
Qualitative Test गुणात्मक परीक्षण *
🔘 lodine Present । आयोडीन उपस्थित
🔘 lodine Absent आयोडीन अनुपस्थित
O Not Performed
Quantitative Test मात्रात्मक परीक्षण *
🔿 Less than 15 ppm 15 पीपीएम से कम
🔘 15-40 ppm 15-40 पीपीएम
🔿 More than 40 ppm 40 पीपीएम से ज्यादा
O Not Performed
Back Submit Clear form
Never submit passwords through Google Forms.
This content is neither created nor endorsed by Google. <u>Report Abuse</u> - <u>Terms of Service</u> - <u>Privacy Policy</u>
Google Forms

13. After this, you have to click on Submit button to finally submit your Form.

Note: You can check your responses again by clicking on the Back button before making Final submission. No changes can be made after Final submission of the Form.



- 14. After submission, a message will be received "Your response has been recorded".
- 15. After this, you may close the window/ tab of your web browser.

For any assistance/ support, kindly email us at:

desmncertras2023@gmail.com

ANNEXURE I

• Reagents and Chemicals

- 1. Conc. Hydrochloric acid
- 2. Dilute Hydrochloric acid
- 3. Iodine solution
- 4. Conc. Sulphuric acid
- 5. Ethyl alcohol
- 6. Distilled water
- 7. Liquid paraffin
- 8. Slaked lime
- 9. Sodium chloride
- 10. Sodium thiosulphate
- 11. Starch
- 12. Soybean/ Arhar dal powder
- 13. Red litmus paper
- 14. Turmeric paper strips
- 15. Potassium iodide

• Apparatus/ Glasswares/ Other Materials

- 1. Test tubes
- 2. Test tube Stand
- 3. Test tube holder
- 4. Beakers
- 5. Burner
- 6. Petridishes
- 7. Self made Lactometer
- 8. White porcelain tile
- 9. Measuring cylinders

- 10. Conical flasks
- 11. Volumetric flasks
- 12. Burette
- 13. Burette stand
- 14. Clamp
- 15. Wash bottles
- 16. Cork
- 17. Magnet
- 18. Filter paper
- 19. Magnifying glass
- 20. Dropper
- 21. Pipettes
- 22. Spatulas- different sizes
- 23. Weighing balance
- 24. Cotton
- 25. Plastic drinking straw
- 26. Sand
- 27. Sealing wax

ANNEXURE II

• Food Items

- 1. Milk
- 2. Indian cottage cheese (Paneer)
- 3. Khoya
- 4. Fat (Ghee)
- 5. Coriander powder (Dhaniya powder)
- 6. Chilli powder (Mirch powder)
- 7. Turmeric powder (Haldi powder)
- 8. Common Salt
- 9. Iodized Salt
- 10. Cumin Seeds (Jeera)
- 11. Black Pepper (Kali Mirch)
- 12. Pulses (Dal)
- 13. Gram flour (Besan)
- 14. Wheat flour (Atta)
- 15. All-purpose flour (Maida)
- 16. Tea leaves
- 17. Honey (pure and adulterated)
- 18. Green peas/ Lady finger
- 19. Green chilli
- 20. Sweet potato/ Beet root

