

Indira Gandhi National Open University New Delhi – Study Centre – 27120 (P)

Department of Dairy Science and Technology, Janta Vedic College, Baraut (Baghpat) U.P.

Diploma in Dairy Technology (36 Guided & 08 unguided of 4 hours each session)

Counseling Schedule for Practical, Session – JULY 2024

Sr. No.	Date, Day and Time	Course Code & Title	Session No.	Serial No. and Title of the experiment / Exercise	Name of the counselor
1.	05.01.2025 Sunday 8.30-12.30 Noon	BPVI-011 Milk Production and Quality of Milk	1	1. Identification of different milch breeds of cattle, buffaloes, goats and external anatomy of dairy animals. 2. Judging of dairy animals. 3. Identification of various feeds and fodders for dairy animals.	Dr. Sachin Shandilya
	1:00 – 5:00 PM	BPVI-011 Milk Production and Quality of Milk	2	4. Preparations of balanced rations, calf starters, milk replacer and feeding of calves. 5. Housing of animals and maintenance of hygienic conditions at farm. 6. Clean milk production. 7. Fields/Farm Visits.	Dr. Sachin Shandilya
2.	12.01.2025 Sunday 8.30-12.30 Noon	BPVI-011 Milk Production and quality of milk	3	1. Preparation of standard 0.1 N sodium hydroxide solution. 2. Preparation of standard 0.1N hydrochloric acid. 3. Preparation of Gerber acid for determination of fat in milk. 4. Sampling of milk. 5. Plate form tests-(1) clot in boiling. 6. Plate form Test-(II) alcohol test.	Dr. Sudheer Kumar
	1:00 – 5:00 PM	BPVI-011 Milk production and quality of milk	4	7. Plate form test-(III) sediment test. 8. Determination of fat in milk by Gerber method. 9. Determination of solids not fat (SNF) in milk. 10. Determination of total solids (TS) in milk. 11. Determination of specific gravity in milk. 12. Determination of Titrable acidity in milk.	Dr. Sudheer Kumar

3.	19.01.2025 Sunday 8:30 – 12:30 Noon	BPVI-011 Milk Production and Quality of Milk	5	13. Determination of milk pH. 14. Determination of Starch in milk. 15. Determination of cane sugar in milk. 16. Detection of glucose in milk. 17. Detection of urea in milk. 18. Detection of Ammonium sulphate in milk. 19. Detection of sodium carbonate or bicarbonate as neutralizer in milk.	Dr. R.K. Atrey
	1:00 – 5:00 PM	BPVI-011 Milk Production and quality of milk	6	20. Resazurin reduction test. 21. Methylene blue reduction (MBR) test. 22. Preparation of microbial media. 23. Demonstration of presumptive coli form test. 24. Demonstration of standard plate count methods. 25. Staining methods.	Dr. Devesh Gupta
4.	02.02.2025 Sunday 8:30 – 12:30 Noon	BPVI-012 Dairy Equipment & Utilities	7	1. To learn elementary layout drawings of utilities. 2. Study of various workshop tools. 3. Study of different sanitary S.S. Pipes fitting and gaskets. 4. Dismantling and assembling of milk pumps.	Dr. Sachin Shandilya
	1:00 – 5:00 PM	BPVI-012 Dairy Equipment & Utilities	8	5. Study and sketch the details of milk tankers, storage tanks and silos. 6. To study different types of thermometers, pressure gauge and flow meters. 7. Study of refrigeration system. 8. Study of part and operation of a cold storage plant and an ice bank unit.	Dr. Sachin Shandilya
5.	09.02.2025 Sunday 8:30–12:30 Noon	BPVI-012 Dairy Equipment & Utilities	9	9. Study different parts and learn the operation of plate chiller and bulk milk cooler. 10. Study of water supply system and water softening plant. 11. Study the constructional details of a fire tube boiler and water tube boilers.	Dr. Sudheer Kumar

	1:00 – 5:00 PM	BPVI-012 Dairy Equipment & Utilities	10	<p>12. Study of a dairy effluent plant.</p> <p>13. To study the different parts of single phase and three phase induction motors.</p> <p>14. Starting of 3 phase squirrel cage induction motors by direct on line and star delta starter.</p> <p>15. Study of different safety measures to be adopted in a dairy plant.</p> <p>16. To study the control and safety mountings of a steam boiler.</p>	Dr. Sudheer Kumar
6.	16.02.2025 Sunday 8:30– 12:30 Noon	BPVI-013 Milk Processing and Packaging	11	<p>1. Reception of Milk.</p> <p>2. Straining, filtration and clarification of milk.</p> <p>3. Chilling and storage of milk.</p> <p>4. Study of cream separator.</p>	Dr. Devesh Gupta
	1:00 – 5:00 PM	BPVI-013 Milk Processing and Packaging	12	<p>5. Study of separation of cream.</p> <p>6. Standardization of milk.</p> <p>7. Study of batch pasteurizer and high temperature short time (HTST) pasteurizer.</p> <p>8. Pasteurization of milk.</p>	Dr. Devesh Gupta
7.	23.02.2025 Sunday 8:30–12:30 Noon	BPVI-013 Milk Processing and Packaging	13	<p>9. Determination of efficiency of pasteurization.</p> <p>10. Study of homogenizer, homogenization of milk and determination of homogenization efficiency.</p> <p>11. Study of milk sterilizer, sterilization of milk and determination of sterilization efficiency.</p> <p>12. Study of packaging system of milk.</p>	Dr. Sachin Shandilya
	1:00 – 5:00 PM	BPVI-013 Milk Processing and Packaging	14	<p>13. Preparation of flavoured milk, reconstituted, toned and double toned milk.</p> <p>14. Cleaning of equipments.</p> <p>15. Sanitization of equipments.</p> <p>16. Assessment of cleaning and sanitization efficiency.</p>	Dr. Sachin Shandilya

8.	02.03.2025 Sunday 8:30-12:30 Noon	BPVI-014 Dairy Products-I	15	1. Preparation and standardization of cream. 2. Preparation of sterilized cream. 3. Preparation of Butter starter.	Dr. Sudheer Kumar
	1:00 – 5:00 PM	BPVI-014 Dairy Products-I	16	4. Preparation of cream for butter making. 5. Construction and operation of power churn.	Dr. Sudheer Kumar
9.	09.03.2025 Sunday 8:30-12:30 Noon	BPVI-014 Dairy Products-I	17	6. Construction and operation of butter packaging machine. 7. Preparation of desi butter (makhhan), table butter and cooking butter by hand operated Churn.	Dr. Devesh Gupta
	1:00-5:00 PM	BPVI-014 Dairy Products-I	18	8. Study of manufacture of table butter by power churn. 9. Preparation of Ghee. 10. Ag-mark grading of Ghee	Dr. R.K. Atrey
10.	16.03.2025 Sunday 8:30-12:30 Noon	BPVI-015 Dairy Products-II	19	1. Preparation of Khoa. 2. Preparation of Gulabjamun. 3. Preparation of Pedas. 4. Preparation of Burfi.	Dr. Sachin Shandilya
	1:00 – 5:00 PM	BPVI-015 Dairy Products-II	20	5. Preparation of Rabri. 6. Preparation of Kalakand and milk cake. 7. Preparation of Kheer. 8. Preparation of Chhana.	Dr. Sachin Shandilya
11.	23.03.2025 Sunday 8:30-12:30 Noon	BPVI-015 Dairy Products-II	21	9. Preparation of Rasogolla. 10. Preparation of Sandesh 11. Preparation of Rasmalai. 12. Preparation of Chhana Murki.	Dr. Sudheer Kumar
	1:00 – 5:00 PM	BPVI-015 Dairy Products-II	22	13. Preparation of Paneer. 14. Study of vacuum pan/double effect/triple effect of evaporator. 15. Study of manufacture of spray dried milk powder. 16. Preparation of value added products from dried milk dairy whitener.	Dr. Sudheer Kumar

12.	06.04.2025 Sunday 8:30-12:30 Noon	BPVI-016 Dairy Products-III	23	9. Preparation of Processed cheese 10. Preparation of Processed cheese spread 11. Calculation of ingredients of Ice-cream mix 12. Preparation of Ice-cream mix. 13. Preparation of Ice-cream and determination of over run.	Dr. Sudheer Kumar
	1:00 – 5:00 PM	BPVI-016 Dairy Products III	24	16. Preparation of Softy 17. Preparation of Kulfi 18. Manufacture of Casein 19. Study of manufacture of lactose	Dr. R.K. Atrey
13.	10.04.205 Thursday 8:30-12:30 Noon	BPVI-017 Quality Assurance	25	1. Familiarization with laboratory equipments and instruments. 2. Listing of quality control agencies at National and International level. 3. Standards specification (Chemical & Microbiological) of milk and milk products.	Dr. Sachin Shandilya
	1:00 – 5:00 PM	BPVI-017 Quality Assurance	26	4. Determination of fat in milk, cream, butter, khoa, paneer, ice-cream & milk powder. 5. Determination of titrable acidity and pH of milk and milk products. 6. Determination of solubility of milk powder. 7. Determination of acid value in ghee.	Dr. Sachin Shandilya
14.	13.04.2025 Sunday 8:30-12:30 Noon	BPVI-017 Quality Assurance	27	8. Microbiological analysis of milk & milk products. 9. Microbiological analysis of water & air. 10. Test for Sanitation of Dairy Equipments (Rinse Solution and Swab Contact Methods)	Dr. Devesh Gupta
	1:00 – 5:00 PM	BVPI-017 Quality Assurance	28	11-20. Judging of milk, table butter, ghee, dahi, ice-cream, khoa (pindi type), paneer, cheddar cheese, milk powder and srikhand.	Dr. R.K. Atrey
15.	18.04.2025 Friday 8:30-12:30 Noon	BPVI-018 Dairy Management & Entrepreneurship	29	1. Identification of sources for milk losses during processing of milk and preparation of milk products. 2. Identification of parameters for	Dr. Sudheer Kumar

				<p>production efficiency.</p> <p>3. Study of working of a co-operative society.</p> <p>4. Calculation of milk payment based on fat and two axis pricing policy.</p>	
	1:00 – 5:00 PM	BPVI-018 Dairy Management & Entrepreneurship	30	<p>5. Designing of milk collection route based on data.</p> <p>6. Preparation of ledger, trial balance and balance sheet of dairy cooperative society.</p> <p>7. Identification of Entrepreneurial skills.</p> <p>8. Preparation of a project report to set up small dairy plant.</p>	Dr. Sudheer Kumar
16.	20.04.2025 Sunday 8:30-12:30 Noon	BPVI-018 Dairy Management and Entrepreneurship	31	<p>9. Assessment of strength and weakness of milk and milk product marketing.</p> <p>10. Preparation of check list of problem in procurement and distribution of milk</p> <p>11. Study of store keeping practices, inventory control and maintenance of various records.</p> <p>12. Preparation of check list for evaluation of performance of a dairy plant.</p>	Dr. Sachin Shandilya
	1:00 – 5:00 PM	BPVI-018 Dairy Management & Entrepreneurship	32	<p>13. Steam load estimation of dairy a plant.</p> <p>14. Refrigeration load estimation of a dairy plant.</p> <p>15. Electrical load estimation of a dairy plant.</p>	Dr. Sachin Shandilya
17.	27.04.2025 Sunday 8:30-12:30 Noon	BPVI-016 Dairy Products-III	33	<p>1. Preparation of Starter Culture.</p> <p>2. Preparation of Dahi.</p> <p>3. Preparation of Mishti Dahi.</p> <p>4. Preparation of Lassi.</p>	Dr. Devesh Gupta
	1:00 – 5:00 PM	BPVI-016 Dairy Products-III	34	<p>5. Preparation of Yoghurt.</p> <p>6. Preparation of Srikhand.</p> <p>7. Preparation of cheddar cheese from cow milk.</p> <p>8. Preparation of mozzarella cheese.</p>	Dr. Devesh Gupta
18.	04.05.2025 Sunday 8:30-12:30 Noon	BPVI-014 & 015 Dairy Products-I & Dairy Products-II	35	<p>11. Visit to small scale Dairy Plant involved in Production of Agmark Grade of Butter and Ghee.</p> <p>17. Visit of Dairy Product manufacturing plant.</p>	Dr. R.K. Atrey
	1:00 – 5:00 PM	BPVI-016 Dairy Products-III	36	<p>14. Visit to Ice-cream Factory</p> <p>15. Visit to Cheese Factory</p>	Dr. R.K. Atrey

19.	11.05.2025 Sunday 8:30-12:30 Noon	BPVI-011 Milk Production and Quality of Milk	01	UNGUIDED PRACTICAL	
	1:00 – 5:00 PM	BPVI-012 Dairy Equipment and Utilities	02	UNGUIDED PRACTICAL	
20.	12.05.2025 Monday 8:30-12:30 PM	BPVI-013 Milk Processing and Packaging	03	UNGUIDED PRACTICAL	
	1:00-5:00 PM	BPVI-014 Dairy Products-I	04	UNGUIDED PRACTICAL	
21.	18.05.2025 Sunday 8:30-12:30 Noon	BPVI-015 Dairy Products-II	05	UNGUIDED PRACTICAL	
	1:00-5:00 PM	BPVI-016 Dairy Products-III	06	UNGUIDED PRACTICAL	
22.	25.05.2025 Sunday 8:30-12:30 Noon	BPVI-017 Quality Assurance	07	UNGUIDED PRACTICAL	
	1:00-5:00 PM	BPVI-018 Dairy Management & Entrepreneurship	08	UNGUIDED PRACTICAL	

In case of absence of any of the counselor in any session, class will be taken by available any other Counselor/Programme Incharge.

(12:30 – 1:00 Noon) Lunch Break

R. K. Atrey
01-01-2025
(Dr. Rakesh Kumar Atrey)

Programme Incharge
IGNOU SC 27120 P
J.V. (P.G.) COLLEGE

Jor
02-01-2025
(Dr. Virendra Pratap Singh)

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