

Diploma Programme in Dairy Technology (DDT)

Counseling Schedule for Theory year 2020

| Sl. No | Date | Timing | Session | Course Code and Title | Teacher |
|--------|----------|------------------|---------|--|-------------------|
| 1. | 17-02-20 | 9:00- 11:00 AM | 1 | Orientation Programme | Prof. Basant Bais |
| | | 11:00 AM-1:00 PM | 2 | Course-I (BPVI-011) Milk Production and Quality of Milk | Dr. C. S. Dhaka |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 3 | Course-II (BPVI-012) Dairy Equipment and Utilities | Dr. Lokesh Tak |
| 2. | 18-02-20 | 9:00- 11:00 AM | 4 | Course-III (BPVI-013) Milk Processing and Packaging | Dr. Lokesh Tak |
| | | 11:00 AM-1:00 PM | 5 | Course - IV (BPVI-014) Dairy Products -1 | Dr. Lokesh Tak |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 6 | Course-V (BPVI-015) Dairy Products - II | Dr. Lokesh Tak |
| 3. | 19-02-20 | 9:00- 11:00 AM | 7 | Course-VI (BPVI-016) Dairy Products - III | Dr. Lokesh Tak |
| | | 11:00 AM-1:00 PM | 8 | Course-VII (BPVI-017) Quality Assurance | Dr. C. S. Dhaka |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 9 | Course -VIII (BPVI-018) Dairy Management and Entrepreneurship | Dr. Lokesh Tak |
| 4. | 20-02-20 | 9:00- 11:00 AM | 10 | Course-I (BPVI-011) Milk Production and Quality of Milk | Dr. Lokesh Tak |
| | | 11:00 AM-1:00 PM | 11 | Course-II (BPVI-012) Dairy Equipment and Utilities | Dr. C. S. Dhaka |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 12 | Course-III (BPVI-013) Milk Processing and Packaging | Dr. Lokesh Tak |
| 5. | 22-02-20 | 9:00- 11:00 AM | 13 | Course - IV (BPVI-014) Dairy Products -1 | Dr. Lokesh Tak |
| | | 11:00 AM-1:00 PM | 14 | Course-V (BP VI-015) Dairy Products — II | Dr. Lokesh Tak |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 15 | Course - VI (BPVI-016) Dairy Products - III | Dr. Lokesh Tak |

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| 6. | 24-02-20 | 9:00- 11:00 AM | 16 | Course-VII (BPVI-017) Quality Assurance | Dr. C. S. Dhaka |
| | | 11:00 AM-1:00 PM | 17 | Course-VIII (BPVI-018) Dairy Management and Entrepreneurship | Dr. Lokesh Tak |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 18 | Course -I (BPVI-011) Milk Production and Quality of Milk | Dr. Lokesh Tak |
| 7. | 25-02-20 | 9:00- 11:00 AM | 19 | Course-II (BPVI-012) Dairy Equipment and Utilities | Dr. Lokesh Tak |
| | | 11:00 AM-1:00 PM | 20 | Course-III (BPVI-013) Milk Processing and Packaging | Dr. Lokesh Tak |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 21 | Course-IV (BPVI-014) Dairy Products -1 | Dr. Lokesh Tak |
| 8. | 26-02-20 | 9:00- 11:00 AM | 22 | Course-V (BPVI-015) Dairy Products - II | Dr. C. S. Dhaka |
| | | 11:00 AM-1:00 PM | 23 | Course-VI (BPVI-016) Dairy Products - III | Dr. Lokesh Tak |
| | | | | Lunch | |
| | | 3:00-5:00 PM | 24 | Course-VII (BPVI-017) Quality Assurance | Dr. Lokesh Tak |
| | | 9:00- 11:00 AM | 25 | Course-VIII (BPVI-018) Dairy Management and Entrepreneurship | Dr. C. S. Dhaka |

Diploma Programme in Dairy Technology (DDT)

Counseling Schedule for PRACTICAL year 2020

| Sl. No. | Practical (Date) | Code & Title of the Course | Session | SI. No. & Title of the Experiments | |
|---------|------------------|--|---------|---|--------------------|
| 1. | 2-03-20 | Introduction to the Practical | 1 | Orientation to Practical/ Lab | Prof. Basant Bais |
| | | Course -1 (BPVI-011) Milk Production and Quality of Milk | 2 | 1. Identification of different milch breeds of cattle, buffaloes, goats and external anatomy of dairy animals 2. Judging of dairy animals 6. Clean milk production | Dr. Lokesh Tak |
| 2. | 3-03-20 | Course-I (BPVI-011) Milk Production and Quality of Milk | 3 | 3. Identification of various feeds and fodders for dairy animals 4. Preparations of balanced rations, calf starters, milk replacer and feeding of calves 5. Housing of animals and maintenance of hygienic conditions at farm 7. Field/Farm visits | Dr. Lokesh Tak |
| | | | 4 | 1. Preparation of standard 0.1N sodium hydroxide solution 2. Preparation of standard 0. IN hydrochloric acid 3. Preparation of gerber acid for | Dr. Lokesh Tak |
| 3. | 4-03-20 | Course -1 (BPVI-011) Milk Production and Quality of Milk | 5 | 4. Sampling of milk 5. Platform test - (i) colt - on - boiling test 6. Platform test - (ii) alcohol test 7. Platform test- (iii) sediment test | Dr. R. N. Kachhwah |
| | | | 6 | 8. Determination of fat in milk by Gerber method 9. Determination of solid - not - fat (SNF) in milk 10. Determination of total solid (TS) in milk | Dr. Lokesh Tak |
| 4. | 5-03-20 | Course-I (BPVI-011) Milk Production and Quality of Milk | 7 | 11. Specific gravity of milk 12. Determination of titratable acidity of | Dr. Lokesh Tak |
| | | | 8 | 14. Detection of starch in milk 15. Detection of cane sugar in milk 16. Detection of glucose in milk | Dr. C. S. Dhaka |
| 5. | 6-03-20 | Course-I (BPVI-011) Milk Production and Quality of Milk | 9 | 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. N. Kachhwah |
| | | | 10 | 20. Resazurin reduction test 21. Methylene blue reduction (MBR) test 22. Preparation of microbial media | Dr. Lokesh Tak |
| 6. | 7-03-20 | Course-I (BPVI-011) Milk Production and Quality of Milk | 11 | 23. Demonstration of presumptive coliform test 24. Demonstration of standard plate count | Dr. Lokesh Tak |

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| | | Course-II (BPVI-012) Dairy Equipment and Utilities | 12 | 1. To learn elementary layout drawings of utilities 2. Study of various workshop tools 3. Study of different sanitary S.S. pipes, fittings and gaskets 6. To study different types of thermometers, pressure gauge and flow meters | Dr. C. S. Dhaka |
| 7. | 11-03-20 | Course-II (BPVI-012) Dairy Equipment and Utilities | 13 | 5. Study and sketch the details of milk tanker, storage tanks and silos | Dr. R. N. Kachhwah |
| | | | 14 | 7. Study of refrigeration system: compressor (reciprocating), condensers (shell & tube, atmospheric) and expansion devices (thermostatic expansion valve/capillary tube) 8. Study of parts and operation of a cold storage plant and an ice bank unit | Dr. Lokesh Tak |
| 3. | 12-03-20 | Course - II (BPVI-012) Dairy Equipment and Utilities | 15 | 9. Study different parts and learn the operation of plate chiller and bulk milk cooler 4. Dismantling and assembling of milk pumps | Dr. Lokesh Tak |
| | | | 16 | 10. Study of water supply system and water softening plant 12. Study of a dairy effluent plant | Dr. Lokesh Tak |
| 9. | 13-03-20 | Course-II (BPVI-012) Dairy Equipment and Utilities | 17 | 11 Study the constructional details of Fire tube and water tube boilers 15. Study of different safety measures to be adapted in a dairy plant. 16. To study the control and safety mountings of a steam | Dr. R. N. Kachhwah |
| | | | 18 | 13. To study the different parts of single-phase and three phase induction motors 14. Starting of 3 phase squirrel cage induction motors by direct on line and star-data starter | Dr. Lokesh Tak |
| 10. | 16-03-20 | Course-III (BPVI-013) Milk Processing and Packaging | 19 | 1. Reception of milk - 2. Straining, filtration & clarification of milk 3. Chilling & storage of milk | Dr. Lokesh Tak |
| | | | 20 | 4. .Study of cream separator 5. Study of separation of milk 6. Standardization of milk | Dr. C. S. Dhaka |
| 11. | 17-03-20 | Course-III (BPVI-013) Milk Processing and Packaging | 21 | 7. Study of batch pasteurizer and high temperature short time (HTST) pasteurizer 8. Pasteurization of milk 9. Determination of efficiency of pasteurization | Dr. R. N. Kachhwah |
| | | | 22 | 10. Study of homogenizer, homogenization of milk and determination of homogenization efficiency | Dr. Lokesh Tak |
| 12. | 18-03-20 | Course-III (BPVI-013) Milk Processing and Packaging | 23 | 11. Study of Milk Sterilizer, Sterilization of Milk and Determination of Sterilization efficiency 13. Preparation of Flavoured Milk, Reconstituted Milk, Toned and Double Toned Milk | Dr. Lokesh Tak |
| | | | 24 | 12. Study of packaging system of milk | Dr. C. S. Dhaka |

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| 13 | 19-03-20 | Course-IV (BPVI-014) Dairy Products - I | 25 | 14. Cleaning of equipment 15. Sanitization of equipment 16. Assessment of cleaning and sanitization efficiency | Dr. C. S. Dhaka |
| | | | 26 | 1. Preparation and standardization of cream 2. Preparation of sterilized cream | Dr. R. N. Kachhwa |
| 14 | 20-03-20 | Course-IV (BPVI-014) Dairy Products - I | 27 | 3. Preparation of butter starter 4. Preparation of cream for butter making | Dr. Lokesh Tak |
| | | | 28 | 5. Construction and operation of power chum 6. Construction and operation of butter | Dr. Lokesh Tak |
| 15 | 21-03-20 | Course-IV (BPVI-014) Dairy Products - I | 29 | 7. Preparation of <i>desi</i> butter (<i>makkhan</i>), and cooking butter | Dr. Lokesh Tak |
| | | | 30 | 8. Preparation of Table butter | |
| 16 | 23-03-20 | Course-IV (BPVI-014) Dairy Products - Course-V(BPVI-015) Dairy Products - II | 31 | 9. Preparation of <i>ghee</i> 10. Agmark grading of <i>ghee</i> | Dr. Lokesh Tak |
| | | | 32 | 1. Preparation of <i>khoa</i> | Dr. Lokesh Tak |
| 17 | 24-03-20 | Course -V(BPVI-015) Dairy Products - II | 33 | 3. Preparation of <i>peda</i> 4. Preparation of <i>burfi</i> | Dr. C. S. Dhaka |
| | | | 34 | 2. Preparation of <i>gulabjamun</i> | Dr. R. N. Kachhwa |
| 18 | 26-03-20 | Course -V (BPVI-015) Dairy Products - | 35 | 6. Preparation of <i>kalakand</i> and milk cake | Dr. Lokesh Tak |
| | | | 36 | 8. Preparation of Chhana | Dr. Lokesh Tak |
| 19 | 27-03-20 | Course-V(BPVI-015) Dairy Products - II | 37 | 13. Preparation of paneer | Dr. C. S. Dhaka |
| | | | 38 | 10. Preparation of <i>sandesh</i> 11. Preparation of <i>rasmalai</i> | Dr. R. N. Kachhwa |
| 20 | 28-03-20 | Course-V(BPVI-015) Dairy Products - II | 39 | 9. Preparation of <i>rasogolla</i> 12. Preparation of <i>Chhena Murki</i> | Dr. Lokesh Tak |
| | | | 40 | 5. Preparation of <i>rabri</i> 7. Preparation of <i>kheer</i> | Dr. Lokesh Tak |
| 21 | 30-03-20 | Course-V(BPVI-015) Dairy Products - II | 41 | 14. Study of vacuum pan/double effect triple effect of evaporator | Dr. Lokesh Tak |
| | | | 42 | 15. Study of manufacture of spray dried milk | |
| 22 | 31-03-20 | Course-V(BPVI-015) Dairy Products - II | 43 | 16. Preparation of value added products from dried milk-dairy whitener | Dr. Lokesh Tak |
| | | | 44 | 17. Visit to dairy product manufacturing plant (Ghee, Butter, Khoa, Dahi Condensed) | Dr. C. S. Dhaka |
| 23 | 1-04-20 | Course- VI (BPVI-016) Dairy Products - III | 45 | 1. Preparation of starter culture 2. Preparation of <i>dahi</i> | |
| | | | 46 | 3. Preparation of <i>mishti dahi</i> 5. Preparation of yoghurt | Dr. Lokesh Tak |
| 24 | 3-04-20 | Course- VI (BPVI-016) Dairy Products - III | 47 | 6. Preparation of <i>shrikhand</i> | Dr. Lokesh Tak |
| | | | 48 | 4. Preparation of <i>lassi</i> / fermented drinks/ salted butter milk | Dr. Lokesh Tak |
| 25 | 4-04-20 | Course- VI (BPVI-016) Dairy Products - III | 49 | 11. Calculation of ingredients for ice cream mix 12. Preparation of ice-cream mix 13. Preparation of ice cream and determination of overrun | Dr. R. N. Kachhwa |

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| | | | 50 | 16. Preparation of softy 17. Manufacture of kulfi | Dr. C. S. Dhaka |
| 26 | 7-04-20 | Course- VI (BPVI- 016) Dairy Products - III | 51 | 18. Manufacture of casein 19. Study of manufacture of lactose | Dr. R. N. Kachhwah |
| | | | 52 | 7. Preparation of cheddar cheese from cow milk | Dr. Lokesh Tak |
| 27 | 8-04-20 | Course- VI (BPVI- 016) Dairy Products - III | 53 | 8. Preparation of mozzarella cheese 9. Preparation of processed cheese 10. Preparation of processed cheese | Dr. Lokesh Tak |
| | | | 54 | 15. Visit to cheese factory | Dr. Lokesh Tak |
| 28 | 9-04-20 | Course-VII(BP VI-017) Quality Assurance | 55 | 1. Familiarization with laboratory equipment and instruments 4. Determination of fat in milk, cream, butter, khoa, paneer, Ice cream, milk powder | Dr. R. N. Kachhwah |
| | | | 56 | 6. Determination of solubility of milk powder | Dr. Lokesh Tak |
| 29 | 13-04-20 | Course-VII (BPVI- 017) Quality | 57 | 8. Microbiological analysis of milk | Dr. Lokesh Tak |
| | | | 58 | 9. Microbiological analysis of air and water. | Dr. C. S. Dhaka |
| 30 | 15-04-20 | Course- VII(BPVI-017) Quality Assurance | 59 | 11-15. Sensory evaluation of milk, cream, butter, ghee, ice | Dr. R. N. Kachhwah |
| | | | 60 | 16-20. Sensory evaluation of khoa, paneer, milk | Dr. Lokesh Tak |
| 31 | 16-04-20 | Course- VII(BPVI-017) Quality Assurance | 61 | 2. Listing of quality control agencies at national level and international level 3. Standards specification (chemical | Dr. Lokesh Tak |
| | | Course- VIII(BPVI- 018) Dairy Management and | 62 | 7. Identification of entrepreneurial skills | Dr. C. S. Dhaka |
| 32 | 17-04-20 | Course-VIII (BPVI- 018) Dairy Management and Entrepreneurship | 63 | 3. Visit to nearby dairy cooperative society and study working aspects 4. Calculation of milk payment based on fat and two axis pricing policy of Dairy Cooperative Society | Dr. R. N. Kachhwah |
| | | | 64 | 5. Designing milk routes based on data. 6. Preparation of ledger, trial-balance and balance- sheet of DCS. | Dr. Lokesh Tak |
| 33 | 18-04-20 | Course- VIII (BPVI- 018) Dairy Management and Entrepreneurship | 65 | 1. Identification of sources for milk losses during processing of milk and preparation of milk products. Preparation of check list for controlling the losses. 2. Identification of parameters for production efficiency 12. Preparation of check list for | Dr. Lokesh Tak |

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| | | | 66 | 11 .Visit a nearby milk union/dairy and study the store-keeping practices, inventory control, and maintenance of various records preparation | Dr. C. S. Dhaka |
| 34. | 20-04-20 | Course- VIII (BPVI- 018) Dairy Management and Entrepreneurship | 67 | 9. Prepare a questionnaire to assess strength and weakness of any milk or milk product marketing by a nearby milk union or a dairy and also administer it. | Dr. R. N. Kachhwah |
| | | | 68 | 10.Visit a nearby milk union/dairy and prepare a checklist of problems in procurement and milk distribution. | Dr. Lokesh Tak |
| 35. | 21-04-20 | Course- VIII (BPVI- 018) Dairy Management | 69 | 13. Load estimation of utilities | Dr. Lokesh Tak |
| | | | 70 | 8. Prepare a project report to set up milk parlour/a small dairy plant. | Dr. Lokesh Tak |
| 36. | 22-04-20 | Course- VIII (BPVI- 018) Dairy Management | 71 | 14. Market information report on different dairy products/Preparation | |
| | | | 72 | 14. Preparation of bankable report | Dr. Lokesh Tak |

B. Unguided Practicals

| Practical (Days) | Course Code and Title | |
|------------------|--|-----------------|
| 23-04-20 | Course-1 (BPV1-011) Milk production and Quality of milk | Dr. C. S. Dhaka |
| | Course-11 (BPVI-012) Dairy Equipment and utensils | Dr. Lokesh Tak |
| 24-04-20 | Course-411 (BPVI-013) Milk packaging rod packets | Dr. Lokesh Tak |
| | Course-IV (BPM-014) Dairy Products -I | Dr. Lokesh Tak |
| 27-04-20 | Course - V (BPV1-015) Dairy Produce - II | Dr. Lokesh Tak |
| | Course -VI (BPVI-016) Dairy Products-I | Dr. Lokesh Tak |
| 28-04-20 | Course-VII (BPVI-017) Quality Assurance | Dr. Lokesh Tak |
| | Course-VIII (BPVI-018) Dairy Management and Entrepreneurship | Dr. C. S. Dhaka |

Note:

- Theory counseling sessions will be conducted with the condition that more than 5 candidates will attend it.
- practical classes will be conducted according to schedule.