

Syllabus for the Post Under Staff Regulation

Assistant Engineer (Mechanical)

PART A – Core Subjects (75%)

Basic Thermodynamics, Boilers and Steam system basics, Heat Transfer and Heat Exchangers, Refrigeration Fundamentals, Psychrometry and Cold Storage Design, Ammonia and Other Industrial Refrigerants, Air Compressors, Internal Combustion Engines, Basics of Fluid Mechanics: Fluid Properties and Flow Measurement, Positive Displacement and Centrifugal Pumps, Mechanical Power Transmission Systems, Material Handling Equipments, Pipe Materials and Components-Valves and Fittings, Material Properties and Stress-strain Concepts, Energy Conservation, Heat Recovery and Regeneration Techniques, Basic Dairy Equipments - High Temperature Short Time and Ultra High Temperature Pasteurizers, Homogenizer, Cream Separators, Clarifier, Spray drying, Advanced Packaging technologies - Modified Atmosphere Packaging, Vacuum Packaging & Aseptic Packaging.

PART B – Allied Subjects (25%)

- Knowledge about Thiruvananthapuram Milma (Registration, Vision, Mission, Operational Area, Administration)
- General Knowledge about Four Southern districts of Kerala (Geography, Traditional art, Social reformers, Writers, sports, cultural Icons & Local Self Government Institutions)
- Current affairs (Based on last three months' media report)
- Simple Arithmetic and Letter Drafting skills, Mental Ability & Reasoning (Basic Mathematics, Profit and loss, Reasoning and Numerical ability)
- Computer Knowledge (Basic computer knowledge, Cyber Security, internet, E-mail, awareness of MS-Office applications and Social Media awareness)

Assistant Engineer (Electrical)

PART A – Core Subjects (75%)

Basic Electrical Technology, Network Theorems, Electro Magnetism, Laws of Magnetic Field, Generators & Motors-Working Principle, Construction and other fundamentals, Various Motor Starting Methods, Motor Speed Control Techniques, Transformers-Working Principle, Construction and other fundamentals, Power Systems, Switchgears, Protection, Digital Electronics, Number Systems and Codes, Logic Gates, Microprocessors, Electrical Measurements, Various measuring instruments, Power Electronics, Components, Circuits, Control Systems, UPS, Cells and Batteries, Special Electrical Motors, Electrical System Design, Power Factor Correction, Wiring Standards, Earthing, Programmable Logic Controllers, Distributed Control System (DCS), Data Acquisition System (DAS), IoT,

Industrial Engineering and Management, Basic Dairy Equipment, High Temperature Short Time and Ultra High Temperature Pasteurizers, Homogenizer, Cream Separators, Clarifiers, Spray drying, Evaporator, Mechanical Vapour Recompression (MVR) and Thermal Vapour Recompression (TVR) technology, Advanced Packaging technologies-Modified Atmosphere Packaging, Vacuum Packaging & Aseptic Packaging

PART B – Allied Subjects (25%)

- Knowledge about Thiruvananthapuram Milma (Registration, Vision, Mission, Operational Area, Administration)
- General Knowledge about Four Southern districts of Kerala (Geography, Traditional art, Social reformers, Writers, sports, cultural Icons & Local Self Government Institutions)
- Current affairs (Based on last three months' media report)
- Simple Arithmetic and Letter Drafting skills, Mental Ability & Reasoning (Basic Mathematics, Profit and loss, Reasoning and Numerical ability)
- Computer Knowledge (Basic computer knowledge, Cyber Security, internet, E-mail, awareness of MS-Office applications and Social Media awareness)

Assistant Marketing Officer

PART A – Core Subjects (75%)

Marketing & Sales

FMCG brands, Logos, slogan, type of Products, Effect of recent GST regime changes in Dairy Industry, banking transactions, Marketing terminology, Pricing, E-commerce, Distribution channels, Modern Format Stores. Marketing Strategies, Digital Marketing, Distribution & Marketing, cost effectiveness, Different types of trading, Direct & Indirect selling, Digital Marketing Platforms, Sales forecasting Technique, Team building, Market Survey & Identification of market Potential and market share. Dealer margin fixing methods, Advertisement platforms, Inventory, Artificial intelligence and Search engine Optimization in digital marketing, Product launch and Product selling story

Basic knowledge in Dairy & food processing

Basic knowledge about milk processing, packing, cold chain management and transportation, Storage condition, FSSAI Standards and Packaging & labelling requirements of core Milma products: -Milk, Curd, Ghee, Butter, Paneer, Ice cream. General awareness about the back of pack information about milk & milk products, Product recall, Product development, Market Sampling & Feedback, Export Inspection procedures.

Communication skills

Drafting skills in English & Malayalam

PART B – Allied Subjects (25%)

- Knowledge about Thiruvananthapuram Milma (Registration, Vision, Mission, Operational Area, Administration)
- General Knowledge about Four Southern districts of Kerala (Geography, Traditional art, Social reformers, Poets, Writers, sports persons, cultural Icons, Demography-District wise population & Local Self Government Institutions)
- Current affairs (Based on last three months' media report)
- Simple Arithmetic, Mental Ability and reasoning-Basic Mathematics, Profit and Loss, Reasoning and numerical Ability, Fraction and Decimal, Simple and Compound Interest, Ratio and Proportion, Percentage, Series, Problems on Mathematical signs, Sense of direction, Odd man out, Coding and Decoding
- Computer Knowledge (Basic computer knowledge and well awareness of MS-Office applications, operating System, Cyber Security, Internet and its uses, E-mail, Social Media)

Assistant Dairy Officer**PART A – Core Subjects (75%)**

Milk Composition and Physico - Chemical Properties, Market Milk-Equipments in milk Processing, Packing, cold chain management, Aseptic packaging. Microbiology of Milk-Microbial contamination sources and prevention, Microbial standards of milk and products. Chemistry of Milk-structure of chemical components of milk, adulterants. Chemical Tests & Procedures of milk and milk products. Starter culture and fermented dairy products. Different types of fermented milk products, basics of starters and its defects. Ice Cream & Frozen Desserts- steps in Ice Cream Manufacturing, Recent advances in ice cream industry. Fat rich Dairy Products (Cream, Butter, Ghee)-Process, solid management, defects and sensory evaluation. Cheese technology-Definition, Method of manufacture, Role of enzymes and starters. Packaging technology of milk & milk products- Modern developments in packing. Sensory Evaluation of milk and milk products. Boiler, CIP ETP and Refrigeration systems. FSSAI Standards and Licensing and Labelling regulations and Certifications.

PART B – Allied Subjects (25%)

- Letter Drafting
- Knowledge about Thiruvananthapuram Milma (Registration, Vision, Mission, Operational Area, Administration)
- General Knowledge about Four Southern districts of Kerala (Major Rivers, hill ranges, Forest and wild life sanctuaries, Traditional Art forms, Writers, Poets, Social reformers, Sport Persons, Cultural Icons, Local Self Government Institutions, Demography-District wise population)
- Current affairs (Based on last three months' media report)
- Simple Arithmetic Mental Ability & Reasoning

Assistant HRD Officer**PART A – Core Subjects- 75% of Total Marks**

Foundations of HRM, HR Planning, Job Analysis and Design, Recruitment and selection, Induction and Separation, Strategic HRM, HR Audits and accounting, HRIS, Fundamentals of HRD, Performance Appraisal, Training and Development, Talent Management, Organizational Development, Fundamentals of Organisational Behaviour, Individual Behaviour, Group and Team behaviour, Team Building, Motivational Theories, Leadership Theories, Communication, Industrial Psychology, Industrial Disputes, Trade Unions, Industrial Conflict and Code of Conduct, Collective Bargaining, Grievance and Discipline, Conflict Management, Principles of Labour Legislation, Constitutional Provisions, Wage Theories, Transparency in Governance, Foundations of Labour Welfare, Social Security, Industrial Health and Safety, Labour Administration.

Employees State Insurance Act and Employees Provident Fund Act- Contributions and benefits, Factories Act- Working hours and overtime, Safety, Workers Welfare, Legal Compliances, Industrial Disputes Act- Strike, lock out and Lay off, Conciliation, Arbitration and Adjudication, Payment of Gratuity Act- Eligibility, Payment Triggers, Payment of Bonus Act-Applicability, Eligibility, Disqualification, Problem Solving-Calculation of ESI & EPF contribution, Calculation of Gratuity, Drafting skills in English & Malayalam.

PART B – Allied Subjects -25% of Total Marks

Knowledge about TRCMPU Ltd (Registration, Starting of Operation, Operational area, Administration, Vision, Mission,). Knowledge about four Southern most Districts of Kerala (Major Rivers, Hill Ranges, Forest and Wildlife sanctuaries, Traditional art forms, Social reformers, Writers, Sports persons, cultural Icons, Demography-District wise population & Local Self Government Institutions), Overview of Indian Economy - Basic economic concepts (e.g., GDP, inflation, unemployment), Indian economy (e.g., sectors, policies, trends), Overview of Indian Polity and Constitution-Structure and functions of Legislature, Executive and Judiciary, Fundamental rights and duties of Citizens as per the Constitution of India, Operational aspects of Right To Information Act, Important articles and recent amendments of Indian Constitution. General Arithmetic, Mental Ability & Reasoning, Computer Proficiency-MS Office, Digital Communication tools, Internet and web technologies.

Assistant Quality Assurance Officer**PART A – Core Subjects (75%)**

Milk Composition and Physico - Chemical Properties. Market Milk-Equipment in milk Processing, Packing, cold chain management, Aseptic packaging. Fundamentals of Dairy microbiology-types of organisms, quality standards, Bacterial growth and nutrition. Chemistry of Milk-structure of chemical components of milk. Common adulterants.

Microbial & Chemical testing methods, cleaning chemicals, Effluent testing. FSSAI Standards and Licensing and Labelling regulations of milk and milk products and Certifications. Quality Assurance of Milk and Milk Products, sampling, testing equipment and chemicals. Starter culture and fermented dairy products. Different types of fermented milk products, basics of starters and its defects. Starter inhibitors. Packaging-Test for packaging materials.

PART B – Allied Subjects (25%)

- Letter Drafting
- Knowledge about Thiruvananthapuram Milma (Registration, Vision, Mission, Operational Area, Administration)
- General Knowledge about Four Southern districts of Kerala (Major Rivers, hill ranges, Forest and wild life sanctuaries, Traditional Art forms, Writers, Poets, Social reformers, Sport Persons, Cultural Icons, Local Self Government Institutions, Demography-District wise population)
- Current affairs (Based on last three months' media report)
- Simple Arithmetic, Mental Ability & Reasoning

Assistant Veterinary Officer

PART A – Core Subjects (75%)

State Breeding Policy, Artificial Insemination (AI) delivery system in Kerala, Collection and processing of Semen & Major Semen stations in India managed by National Dairy Development Board (NDDB) and Amul. Breeding of Dairy cattle - Selection of breeding bulls, Female reproductive system, various stages of foetal development, gestation, parturition and obstetrics. Calf Management, Basics of Animal Nutrition, Formulation of Balanced Ration to Dairy cattle, Compounded Cattle Feeds & Total Mixed Ration, Green fodders, Dry fodders, Preservation of fodders and Hay making, Feed supplements- Bypass fat, Probiotics & Antacids, Mineral Mixture and Chelation process of Minerals, Feed contaminations and its effects, Dairy Farm management, Infectious Diseases in Dairy Cattle - Foot and Mouth Disease, Brucellosis, Haemoprotozoan diseases, Parasitic diseases, Zoonotic diseases, Non-infectious Diseases in Dairy Cattle, Mastitis, Clean Milk Production, Residues in Milk and Milk Adulterants, Antimicrobial Resistance, Alternate Methods for Disease Control in Dairy Cattle, importance of Ethno-Veterinary medicines and Homeopathic Veterinary Medicines in disease management of dairy cattle, Animal Genetics and Biostatistics – calculations, Food Safety Standards, Laws and Regulations, International Food Safety Standards, Food Safety Regulatory agencies. Consumer Protection Act, introduction to Food Safety and Hygiene, Factors affecting food safety, Personal Hygiene, Pest Control & Waste management, Challenges to Dairy farming in Kerala

PART B – Allied Subjects (25%)

- Knowledge about Thiruvananthapuram Milma (Registration, Vision, Mission, Operational Area, Administration)
- Composition of Milk, Milk Processing Technologies, Varieties of Milk marketed by Milma, Major Milk products
- General Profile & Statistics of Indian Co-Operative Dairy sector- Kerala in particularly.
- General Knowledge about Four Southern districts of Kerala (Major Rivers, hill ranges, Forest and wild life sanctuaries, Traditional Art forms, Writers, Poets, Social reformers, Sports Persons, Cultural Icons, Local Self Government Institutions, Demography-District wise population)
- Current affairs (Based on last three months' media report)
- Simple Arithmetic, Mental Ability & Reasoning

Junior Systems Officer**PART A – Core Subjects (75%)**

1. Computer Hardware & Networking- Central processing Unit(CPU), Monitor, Peripherals, Types Of Cards, Motherboard, External storage device, Switch mode Power supply (SMPS), Memory, Printers, Types of network, TCP/IP (Transmission Control Protocol Internet Protocol, User Datagram Protocol (UDP), Transmission Control Protocol (TCP), Simple Network Management Protocol (SNMP) messages, File Transfer Protocol (FTP), Simple Mail Transfer Protocol (SMTP), Modem, Integrated Services Digital Network (ISD), Broadband, Managed Leased Line Network (MLLN), Fiber optic network.
2. Operating System - Types of operating systems, Functions of Operating System.
3. Software Development Life Cycle (SDLC) - Requirement Analysis, Design, Implementation, Testing, Deployment, Maintenance, Models: Waterfall, Spiral, Agile, DevOps
4. Software Requirements - Functional vs. Non-functional requirements, SRS (Software Requirement Specification) preparation, Types of Software Requirements.
5. Software Design - Modular design, Cohesion & Coupling, Use case diagrams, flowcharts, UML diagrams, Software Design Principles, Software Interface Design, Design Patterns
6. Software Testing - Unit testing, Integration testing, System testing, Testing Methods, Acceptance testing Manual vs automated testing, Test case design and debugging, Testing Tools and Automation Frameworks.
7. Software Maintenance - Types of maintenance (corrective, adaptive, perfective)

8. Programming Languages - Data types, operators, control statements, Functions, pointers, arrays, strings, structures, file handling, Classification of Programming Languages, Object-Oriented Programming (OOPs): classes, inheritance, polymorphism, and encapsulation.
9. Java / Python- Data types, loops, functions/methods, Exception handling, File operations, Collections and frameworks (Java) / Lists, dictionaries, tuples (Python), Basic GUI programming concepts.
10. PHP / Web Programming- HTML, CSS, JavaScript basics, PHP syntax, forms, session management, Server-side scripting and MySQL/PostgreSQL integration
11. Database Design & Management - ER diagrams, normalization (1NF-3NF), SQL queries (SELECT, INSERT, UPDATE, DELETE, JOINS, GROUP BY), Stored procedures, triggers, views.
12. DBMS Concepts - ACID properties, transactions, indexing, Deadlock Handling in DBMS, Distributed Databases, Backup and recovery, Database Models, PostgreSQL / MySQL / Oracle basics.
13. ORM and Framework Integration - Using Laravel ORM (Eloquent) / Django ORM, MVC architecture, Popular ORM Tools, Performance Optimization and Caching.
14. Client Side - HTML5 structure, CSS styling, JavaScript/ES6 features, DOM manipulation, form validation
15. Server Side - Web servers (Apache, Nginx, IIS), RESTful API design, JSON/XML handling Session and authentication management
16. Frameworks - Components and Modules of a Framework, Framework vs Library, Framework Lifecycle and Flow Control, Frontend Frameworks (React, Angular, Vue.js), Backend Frameworks (Django, Flask, Laravel, Spring Boot, Express.js), Full-Stack Frameworks (Next.js, Meteor, Ruby on Rails), PHP: Laravel / CodeIgniter, Python: Django / Flask, Java:Spring Boot basics.
17. Version Control & Collaboration - Popular Version Control Tools, Git commands, GitHub, GitLab, Bitbucket, repository management, branching, merging, CI/CD overview
18. Software Project Management - Project planning, effort estimation (Function Point, COCOMO), Risk management and quality assurance, Agile and Scrum methodologies, Documentation and deployment.
19. API & Micro services - Types of APIs, API Architecture and Components, RESTful API Principles, JSON data exchange, Authentication (JWT, Auth)
20. DevOps Basics - Continuous integration / deployment, Containerization (Docker), cloud deployment basics, DevOps Lifecycle, Key Principles of DevOps, Infrastructure as Code (IaC).

21. Software Security - Secure coding practices (SQL injection, XSS prevention), HTTPS, encryption, user authentication

22. Cyber security - Antivirus, antispyware, firewall basics, secure login practices, Data encryption and access control, Cybersecurity awareness.

23. Cloud and Virtualization - Introduction to cloud platforms (Amazon Web service, Azure, Google Cloud Platform), Virtual machine Software, Remote desktop and virtualization tools.

PART B – Allied Subjects (25%)

1. Knowledge about TRCMPU Ltd. (Registration and starting of operation Operational Area, Administration, Vision, Mission).

2. General Knowledge about four southern most districts of Kerala- Major rivers, Hill ranges, Forest & wild life sanctuaries, Traditional art forms, Writers, Poets & social reformers, Sports persons, Cultural icons, Local Self Government Institutions, Demography-District wise population

3. Simple Arithmetic, Mental Ability & Reasoning

Syllabus for the Post Under Standing Order

System Supervisor

PART A – Core Subjects (75%)

Computer Hardware - Central processing Unit(CPU), Monitor, Peripherals, Buses, Internal Buses, Types of Cards, Motherboard, External storage device, Switch mode Power supply (SMPS), Memory, Printers, Robotics & Artificial intelligence.

Database Administration - Database, Database architecture, Types of database architecture, Schema and Instance of database, Data Independence, Database users, Types of database system, Database languages.

Database Management system - Data Base Management system (DBMS), Data & Information and Knowledge, File oriented approach, Database approach, Database operation.

Computer Networks - Types of network, Types of Topologies, Types of communication, Transmission media, open systems Inter-connection (OSI), TCP/IP (Transmission Control protocol/Internet Protocol), User Datagram Protocol (UDP), Transmission Control Protocol (TCP), Simple Network Management Protocol (SNMP) messages, File Transfer protocol (FTP), Simple Mail Transfer Protocol (SMTP), Modem, Integrated Services Digital Network (ISDN), Broadband, Managed Leased Line Network (MLLN), Fiber optic network.

Information security - Antivirus, antispyware, firewall basics, secure login practices, Data encryption and access control, Cybersecurity awareness.

Operating System - Types of operating systems, Functions of Operating System.

Cloud and virtualization- Introduction to cloud platforms (Amazon Web service, Azure, Google Cloud Platform), Virtual machine Software, Remote desktop and virtualization tools.

Software Management - Installation, Testing, Benefits of Software Testing, Trouble shooting, Deployment of software, Firmware, Software Vs Firmware.

Software Development – Programming fundamentals, Object-Oriented Programming (OOP), Software Design Principles, Testing Methodologies, Software Development Life cycle (SDLC), Cloud computing Fundamentals, Debugging, Performance optimization, Security Best Practices, System Design, Distributed Systems, Application Programme Interface (API), Software Architecture, Machine Learning Fundamentals.

Scripting and Automation- Shell scripting (Linux) or Powershell, Python scripting for automation.

Web Technologies - Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), JavaScript, Client-server architecture' Hypertext Transfer Protocol (HTTP), Hypertext Transfer Protocol Secure (HTTPS) protocols, Introduction to frameworks (Eg: Laravel, React, & Django), Hypertext Preprocessor (PHP).

PART B – Allied Subjects (25%)

1. Knowledge about TRCMPU Ltd. (Registration and starting of operation Operational Area, Administration, Vision, Mission).
2. General Knowledge about four southern most districts of Kerala- Major rivers, Hill ranges, Forest & wild life sanctuaries, Traditional art forms, Writers, Poets & social reformers, Sports persons, Cultural icons, Local Self Government Institutions, Demography-District wise population
3. Simple Arithmetic, Mental Ability & Reasoning

Junior Assistant

PART A – Core Subjects (50 % of Total Marks)

Financial Accounting - Concepts - Principles - Accounting Standards - Financial Statements - P&L- Balance Sheet - Trading and Non-trading, Account from incomplete records - Final account. Non-profit Organizations, Bank Reconciliation, Statistics.

Introduction of Cost Accounting - Accounting and control of material cost - Accounting for overheads - Marginal Costing - Standard Costing - Breakeven Analysis - Cost Reduction - Cost Management.

Introduction to GST, GST Rates, Payment of Tax, E-way Bill-Return Filing.

Principles of Marketing, Business Analytics, Marketing terminology, Major Dairy Brands of Kerala, Distribution Channels, Advertisement Platforms

Principles of Cooperation, Registration of Societies, Books and Registers kept by societies as per Kerala Cooperative Societies Act and Rules.

Digital Banking- NEFT, UPI, RTGS, Mobile Banking and their importance in managing Cash flows. Types of Insurance, Fundamentals of Auditing- Nature, objective & scope of Audit, Internal control- Debtor/Creditor Balance confirmations.

Computer Proficiency- Microsoft Office Applications, Internet and Web Technologies, Typing and Shortcut Keys, Digital Communication Tools.

Letter Drafting skills in English and Malayalam.

PART B – Allied Subjects (50 % of Total Marks)

1. Knowledge about TRCMPU Ltd -Administration, Vision, Mission, Registration, Area of operation
2. General Knowledge- About 4 Southern most districts of Kerala (Major rivers, Hill ranges, Forest& wild life sanctuaries, Writers, Poets & social reformers, Cultural icons, Local Self-government Institutions, Demography-District wise population)
3. Current Affairs (National & State Level)-Agriculture, Dairy Development, Economics/Business News
4. General Arithmetic, Mental Ability & Reasoning

Technician Gr II (MRAC)

PART A – Core Subjects (75%)

Basics of refrigeration and thermodynamics, Vapour compression and absorption refrigeration systems, Ammonia Refrigeration System, Refrigeration Compressors, Condensers and other accessories, Common industrial refrigerants - Types, Properties and Environmental Impact, Air Conditioning systems - Types, Components and Operation, Psychrometry and heat load concepts, Psychrometric Properties and Processes, Refrigerators, deep freezers and blast coolers including its operation and maintenance, Basic Electrical Technology for Refrigeration and Air conditioning system, AC/DC Supply system' Simple arithmetic problems related with Coefficient of Performance (COP), Heat Transfer, Psychrometry.

PART B – Allied Subjects (25%)

- * Knowledge about TRCMPU Ltd (Registration, Operational Area, Vision, Mission, Administration),
- * General Knowledge about 4 Southern most districts of Kerala (Traditional art forms, Social reformers, Writers, Sports persons, Cultural icons & Local Self Government Institutions)
- * Simple Arithmetic, Mental Ability & Reasoning (Basic Mathematics, Reasoning

and Numerical ability

- * Computer Knowledge (Basic computer knowledge and awareness of MS-Office applications)

Technician Gr II (Electrician)

PART A – Core Subjects (75%)

Basics of electricity, AC & DC Motors, Different Motor starters and speed controlling methods, Power and Distribution Transformers, Diesel Generator, Engine, Alternator and Components, Switchgears and Protection, LV and MV Distribution system, Earthing, Power Factor Correction, UPS, Inverters and Batteries, Solar Power Generation, Basic Electronics, Measuring Instruments, Energy conservation, Standards and Labelling, Simple problems from power, current, voltage and resistance, selection of Starters, cables and other switchgears.

PART B – Allied Subjects (25%)

- * Knowledge about TRCMPU Ltd (Registration, Vision, Mission, Operational Area, Administration),
- * General Knowledge about 4 Southern most districts of Kerala (Traditional art forms, Social reformers, Writers, Sports persons, Cultural icons & Local Self Government Institutions)
- * Simple Arithmetic, Mental Ability & Reasoning (Basic Mathematics, Reasoning and Numerical ability)
- * Computer Knowledge (Basic computer knowledge and awareness of MS-Office applications)

Technician Gr II (Electronics)

PART A – Core Subjects (75%)

AC and DC Fundamentals, Active and Passive Components, power Electronics, Analog Electronics, Analog circuits, Operational Amplifiers, Timers, Integrated Circuit, Digital Electronics, Sensors and transducers for Pressure/Temperature/Level/Flow etc., Flip Flops, Multiplexers, Analog-Digital & Digital-Analog converters, Microcontrollers and Programmable Logic Controllers, Electronic Communication: Cables & Connectors, AC/DC Measurements, Cells and Batteries, Cathode Ray Oscilloscope, Digital Storage Oscilloscope, Soldering & De-soldering Techniques, Basic Electrical Technology, AC/DC. Supply system, Simple Arithmetic Problems from Power and Energy, Measurements, Logic Gates, Number Systems.

PART B – Allied Subjects (25%)

- * Knowledge about TRCMPU Ltd (Registration, Operational Area, Vision, Mission, Administration),
- * General Knowledge about 4 Southern most districts of Kerala (Traditional art forms, Social reformers, Writers, Sports persons, Cultural icons & Local Self Government Institutions)
- * Simple Arithmetic, Mental Ability & Reasoning (Basic Mathematics, Reasoning and Numerical ability)
- * Computer Knowledge (Basic computer knowledge and awareness of MS-Office applications)

Technician Gr II (Boiler)**PART A – Core Subjects (75%)**

Type of Boilers, mountings and accessories, Boiler Operation & Maintenance, Various fuels used in Boiler, Basics of Boiler Act, Boiler Feed water quality, Best practices & Installations for Efficient Boiler operation, Various Mechanical power Transmission Systems, Lubrication, various valves, Traps and other pipe fittings for steam, water, condensate and other High Pressure applications, Measurements, Limits and Fits, pipe fittings and Joints, common Boiler Piping & Structural Materials, General Measuring, cutting & Hand tools , Basic Electrical Technology, AC/DC Supply system, Simple Problems related to Boiler Efficiency, Fuel and Steam load Calculation, Limits & Fits.

PART B – Allied Subjects (25%)

- * Knowledge about TRCMPU Ltd (Registration, Operational Area, Vision, Mission, Administration),
- * General Knowledge about 4 Southern most districts of Kerala (Traditional art forms, Social reformers, Writers, Sports persons, Cultural icons & Local Self Government Institutions)
- * Simple Arithmetic, Mental Ability & Reasoning (Basic Mathematics, Reasoning and Numerical ability)
- * Computer Knowledge (Basic computer knowledge and awareness of MS-Office applications)

Lab Assistant**PART A – Core Subjects (75%)**

General chemistry ;Atomic structure, chemical bonding, stoichiometry, states of matter and the periodic table, chemical kinetics, thermodynamics, chemical equilibrium, solutions and electrochemistry. Gases, acids and bases and the principles governing chemical reactions and energy.

General microbiology: Microbial classification and identification (staining techniques, culture media), bacterial growth and physiology, sterilization and disinfection and the biology of major microbial groups; bacteria, viruses, and fungi. Immunology (antigens, antibodies, immune responses) and microbiology which covers pathogenic microorganisms and their control.

Milk - constituents of milk, Platform tests of milk, Lactometer reading (SNF & Density), Fat content determination (Gerber Method), Total Solids calculation, moisture analysis, Factors affecting milk quality, types of market milk and its FSSAI standards, Representative sampling methods for milk and milk products, Sample handling and preservation, Microbial growth and reproduction, Microbiology of milk and products, useful microorganisms, pathogens Pasteurisation- time temperature combination, different types of heat treatments, effect of heat treatment on milk, MBRT (Methylene Blue Reduction Test), Resazurin test, Plate Count (SPC), Coliform test, Yeast and mold testing in fermented products, Common milk adulterants (urea, detergent, starch, sugar), Rapid detection methods for adulterants, Calibration of testing equipment, Preparation of testing chemicals, Lab hygiene and safety, Clean-in-Place (CIP) principles, Cleaning chemical residue monitoring of milk handling equipment, Water quality and testing methods, Effluent testing and legal limits.

PART B – Allied Subjects (25%)

- Knowledge about TRCMPU Ltd (Registration, Operational Area, Vision, Mission, Administration),
- General Knowledge about 4 Southern most districts of Kerala (Traditional art forms, Social reformers, Poets, Writers, Sports persons, Cultural icons & Local Self Government Institutions)
- Simple Arithmetic, Mental Ability & Reasoning
- Current affairs (Based on last three months' media report)

Marketing Assistant**PART A – Core Subjects (75%)**

Front line sales, Distribution and Supply Chain Management: Food Products, Dairy Products, Kerala based FMCG (Dairy & food brands), Marketing, Sales & Distribution, Dealer network, Product availability, Customer interaction, order booking, Market intelligence. Supply chain channels, Customer feedback, Product demonstration, Stock Management (First in First out), Consumer awareness, Pricing. Competitor universe, Hotels, Restaurants & Cafeteria

(HoReCa), Modern Format Stores & Merchandizing, After Sales service, Customer complaint redressal, Market Survey, Dealer satisfaction evaluation, customer Satisfaction.

Basic knowledge about Milk & Dairy products: Composition of milk, FAT&SNF, Basic testing, Pasteurization and Homogenization, UHT Pasteurized milk (Ultra High temperature Pasteurized), Variants of Milk, Packaging & Labelling regulations Ingredient, storage condition of Milma products, Fermented Products, Cold chain, Toll free customer care.

Writing & presenting skills (English & Malayalam): Drafting letters, presenting skills (Malayalam & English)

Field Exposure & Geographical knowledge: Positive Attitude, Sales Negotiation, Customer relationship, Knowledge about four southern districts of Kerala and its terrain, Area specific consumption habits.

PART B – Allied Subjects (25%)

- Knowledge about TRCMPU Ltd (Registration, Vision, Mission, Operational Area, Administration),
- General Knowledge about 4 Southern most districts of Kerala (Biodiversity, Traditional art forms, Social reformers, Writers, Sports persons, Cultural icons, Demography-District wise population & Local Self Government Institutions)
- Simple Arithmetic, Mental Ability & Reasoning (Basic Mathematics, Reasoning and Numerical ability)
- Computer Knowledge -Basic computer knowledge and MS-Office applications, Social Media, Internet and E-mail

Junior Supervisor (P&I)

PART A – Core Subjects (75%)

Co-operative movement and Co-operative institutions in India, particularly in Kerala. Principles of Co-operation. Evolution and Current status of Anand Pattern Dairy Co-operative societies in Kerala - 3 tier structure, Dairy co-operative movement in Kerala. Formation of KCMMF and Regional Milk Unions, Operation Flood Programme in Kerala State.

Article 43 B of the constitution

Article 243 ZH of the Constitution

Kerala Co-operative Societies Act and Rules

Act:

Subsection -(ac), (d), (pb) of Section 2 of the KCS Act.

Section 3, 6, 9A, 16B, 19B, 20, 28, 28A, 28B, 29, 30, 33, 56, 63, 66, 68, 69,71,74,80,96,97, 103

Rules - 3, 4,5, 6, 8A, 9, 15(5), 16E, 16F, 18, 19,32,36,37,37A, 38, 39, 43, 43A, 44, 44A, 45, 46, 48, 59, 64, 101, 180, 182, 183, 184, 185, 186, 188A, 190, 198, 199

Preparation of Final Accounts, Preparation of Classified Receipt and Disbursement Account, Preparation of Income and Expenditure Account, Basic Knowledge about Milk, Quality Parameters, its pricing and Food Safety Standards of Milk, Bulk Milk Coolers. Procurement Input Programs and Welfare Programs of TRCMPU Ltd.

PART B – Allied Subjects (25%)

Knowledge about TRCMPU Ltd (Administration, Registration, Vision, Mission, Area of operation)

Current Affairs (based on last 3 month's media report)

Logical Reasoning- Basic Mathematical and Arithmetical skills, Problem solving skills, Analytical reasoning

Awareness of Computers- Operating Systems, E-Mail, Microsoft Office applications, Cyber Security and Social Media Awareness

General Knowledge about 4 Southern most Districts of Kerala (Major Rivers, Hill ranges, Forest & wild life sanctuaries, Writers, Poets & social reformers, Cultural icons, Local Self-government Institutions, Demography-District wise population)

Drafting skills (English/Malayalam)- Drafting of different types of Letters, Drafting of Submissions, Drafting of Reports.

Plant Assistant Grade -III

PART A – Core Subjects (75%)

- പാലും പാലുൽപ്പന്നങ്ങളും : അടിസ്ഥാന അറിവ്
- പാൽ സംസ്കരിക്കുന്നതിനുള്ള വിവിധ രീതികൾ
- പാലിൽ അടങ്ങിയിട്ടുള്ള അടിസ്ഥാന ഘടകങ്ങൾ
- പാൽ സാമ്പിളിംഗ് രീതി
- പാലിൽ അടങ്ങിയിട്ടുള്ള ഘടകങ്ങൾ പരിശോധിക്കുന്നതിനുള്ള ഉപകരണങ്ങൾ
- ഡയറി പ്ലാന്റിൽ ഉപയോഗിക്കുന്ന ഉപകരണങ്ങൾ
- മിൽമ തിരുവനന്തപുരം മേഖല യൂണിയൻ ഉൽപ്പാദിപ്പിക്കുന്ന പ്രധാന പാൽ ഉൽപ്പന്നങ്ങൾ
- പാൽ സംസ്കരണവുമായി ബന്ധപ്പെട്ട അടിസ്ഥാന പ്രവർത്തികൾ.
- ക്ലീനിംഗ് കെമിക്കലുകൾ
- പാലിന്റെ ഭക്ഷ്യസുരക്ഷാ മാനദണ്ഡങ്ങൾ
- പൊതുവായ വ്യക്തി ശുചിത്വ രീതികൾ.

PART B – Allied Subjects (25%)

- മിൽമയെ കുറിച്ചുള്ള അടിസ്ഥാന അറിവ്
- മിൽമ തിരുവനന്തപുരം മേഖലാ യൂണിയന്റെ ചരിത്രം
- മിൽമ തിരുവനന്തപുരം മേഖലാ യൂണിയന്റെ ദർശനഭൗതികം, മൂല്യങ്ങൾ എന്നിവയെക്കുറിച്ചുള്ള അവബോധം.
- കേരളത്തിലെ ഗ്രാമീണ സമ്പദ് വ്യവസ്ഥയിൽ ക്ഷീര സഹകരണ സ്ഥാപനങ്ങളുടെ പങ്ക്.
- എമർജൻസി ഫസ്റ്റ് എയ്ഡ് അറിവുകൾ.
- അടിസ്ഥാന ഗണിതം.
- അടിസ്ഥാന ഇംഗ്ലീഷ് പരിജ്ഞാനം.
- സ്വന്തം ഔദ്യോഗിക ആവശ്യങ്ങൾക്കായി മേലധികാരിക്ക് മലയാളത്തിൽ കത്തെഴുതാനുള്ള കഴിവ്.

Secretarial Assistant**PART A – Core Subjects (50%)**

Office management- functions, filing systems, Record maintenance, Secretarial duties and responsibilities, Drafting of official letters/circulars/minutes, office correspondence- English and Malayalam, shorthand and typewriting practices, basic accounting, maintenance of registers, data entry and computer applications, time management and office etiquette, handling of confidential files and records, communication skills-verbal and written, basics of administrative procedures in cooperative institutions, e-governance basics, office automation, Computer Proficiency-Microsoft Office Applications, Internet and Web Technologies, Typing and Shortcut Keys, Digital Communication Tools

PART B – Allied Subjects (50%)

1. Knowledge about TRCMPU Ltd - Vision, Mission, Administration, Registration, Area of operation
2. General Knowledge- About four Southern most districts of Kerala (Major rivers, Hill ranges, Forest & wild life sanctuaries, Writers, Poets & social reformers, Cultural icons, Local Self-government Institutions, Demography-District wise population)
3. Current Affairs (National & State Level)-Agriculture, Dairy Development, Economics/Business News
4. General Arithmetic, Mental Ability & Reasoning

Driver cum Office Attendant**PART A – Core Subjects (75%)**

Motor Vehicles Act & Rules (1988) and Kerala Motor Vehicles Rules (1989) Traffic regulations, road signs, signals, lane discipline, and safe driving practices. Vehicle documents to be carried: Registration Certificate, Insurance, Pollution Certificate, Driving License, Permit, Fitness Certificate. Basic automobile engineering - functioning of petrol and diesel engines, clutch, gearbox, braking, steering, suspension, and electrical systems. Vehicle maintenance - preventive maintenance, identification of common faults and basic roadside remedies, log book and fuel record entries. Procedure for accident reporting, emergency response, and basic first aid. Road safety measures, defensive driving and Good Samaritan rules. Environmental awareness - pollution control, eco-driving, and waste segregation in premises. Basic Office etiquette

PART B – Allied Subjects (25%)

Knowledge about TRCMPU Ltd

(Registration, Vision, Mission, Operational Area, Administration)

* General Knowledge about Kerala

(Traditional art forms, Social reformers, Writers, Poets, Sports persons, Cultural icons Demography-District wise population & Local Self Government Institutions)

* Simple Arithmetic, Mental Ability & Reasoning (Basic Mathematics, Reasoning and Numerical ability)

* Computer Knowledge (Basic computer knowledge and awareness of MS-Office applications).