

# Syllabus for General section of all the posts

## Marathi

- व्याकरण
- सर्वसामान्य शब्दसंग्रह
- म्हणी आणि वाक्यप्रचार यांचा अर्थ आणि उपयोग
- उता-यावरील प्रश्नांची उत्तरे
- वाक्य पृथःकरण व त्याचे प्रकार

## English

- Grammar
- Common Vocabulary
- Sentences Structure
- Idioms and phrases and their meaning
- Comprehension of passage
- Sentence Arrangement and Error Correction

## General Knowledge

- चालू घडामोडी
- महाराष्ट्रचा इतिहास
- राज्यघटना
- महाराष्ट्राचे व भारताचे नागरीकरण
- अद्ययावत तंजज्ञान
- पर्यावरण समस्या
- वारसा स्थळे
- पर्यटन
- ऊर्जा संवर्धन व हरीत बांधकाम
- घनकचरा व्यवस्थापन

## Reasoning

- Interpretation of Data and Graphs
- Directions
- Arithmetical reasoning
- Statements and Arguments
- Decision Making
- Statements and Conclusions
- Analogy
- Number Series

पनवेल महानगरपालिकेच्या पद भरती करीता ४१ संवर्गातील पदांसाठी निश्चित केलेला अभ्यासक्रम

अ.क्र.	पद	निश्चित केलेला अभ्यासक्रम
१	माता व बाल संगोपन अधिकारी, गट-अ Reproductive & Child Health Officer, Group A (Non-Gazetted)	Reproductive and Child Health Programme, Demography, Birth, Death & other Indicators. Human Nutrition and Food Science: Importance of nutrition for well being, Nutrients-carbohydrate, protein, fat, energy, fat soluble vitamins-A,D,E,K, water soluble vitamins-B-complex and Vit.C, minerals-Ca, P, Fe, I, Zn, Na, F – Role, Functions, Sources, Requirements, Deficiency signs and symptoms and Health problems associated, Child Nutrition and Malnutrition, Legislations and Programmes pertaining to Child Health and Nutrition in India, Child Welfare and Policy, Early Childhood Care and Education, Pregnancy-Care, complications, critical periods in development, Types of birth, complications during delivery, Postnatal care of mother and child, Care of newborn - Importance of breastfeeding, weaning; Characteristics of newborn, Characteristics and care of premature baby, Routine Immunization, Cold chain.
२	क्षयरोग अधिकारी, गट-अ Tuberculosis officer, Group A (Non Gazetted)	NTEP program, Nishay portal, Anatomy of respiratory system, Basic Physiology of Respiratory system, Basic understanding of Tuberculosis, Basic understanding of Anti-TB drugs and categories of treatment, Prevention of tuberculosis, Technical and Operational Guidelines for TB Control in India 2016, Guidelines for prevention and treatment of TB in PLHIV, National TB Elimination program, NTEP ICT / IEC / ACSM / BCC, Newer Drug Regimen of Anti-TB drugs.
३	पशुशल्य चिकित्सक (व्हेटर्नरी ऑफिसर), गट-अ Veterinary Officer, Group A (Non Gazetted)	Elementary Animal Husbandry, Elementary Livestock Handling, Elementary Animal Nutrition, Elementary Anatomy and Physiology of Animals, Elementary Pharmacology, Basic Poultry Science, .Elementary Animal Husbandry Extension, Elementary Parasitology, Elementary Animal Reproduction, Elementary Veterinary Epidemiology and Public Health, Basic Andrology and Artificial Insemination, Veterinary Hospital Management and Surgical Care, Basic Veterinary Medicine, Wounds Management and Veterinary Care, Basic Clinical Pathology and Laboratory Techniques, Practical Farm Training, Practical Animal Husbandry Extension Training, Practical Veterinary Hospital Training, Practical Laboratory Training, Practical Veterinary Pharmacy Training
४	वैद्यकीय अधिकारी, गट-अ Medical Officer, Group A (Non Gazetted)	<b>General Medicine:</b> Cardiology, Respiratory diseases, Gastro-intestinal, Genito-Urinary, Neurology, Hematology, Endocrinology, Metabolic disorders, Infections/Communicable Diseases, Nutrition/Growth, Diseases of the skin (Dermatology), Musculoskeletal System, Psychiatry, Emergency Medicine, Common Poisoning, Snake bite, Tropical Medicine, ) Critical Care Medicine, Emphasis on medical procedures, Patho physiological

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		<p>basis of diseases, Vaccines preventable diseases and Non vaccines preventable diseases, Vitamin deficiency diseases</p> <p><b>Pediatrics:</b> Common childhood emergencies, Basic new born care, Normal developmental milestones, Accidents and poisonings in children, Birth defects and counseling including autism, Immunization in children, National programmes related to child health.</p> <p>Surgery (Surgery including ENT, Ophthalmology, Traumatology and Orthopaedics)</p> <p>GYNAECOLOGY &amp; OBSTETRICS- Reproductive and Child Health Programme, PREVENTIVE SOCIAL AND COMMUNITY MEDICINE- National Programmes, Administrative work, Public Health work.</p>
५	<p>हिवताप अधिकारी, गट-अ Malaria Officer, Group A (Non Gazetted)</p>	<p>Medical Entomology: Insecta: Mosquito, flies, Lice, Fleas and Bugs, Arachnida: Ticks and Mites, Crustacea: Cyclops, Identification of the arthropods, Control of Arthropods and Diseases borne by them, Insecticides and Insecticide Resistance, Rodents and Anti-Rodent Measures, Integrated Vector Control Environment Sanitation: Collection of Water sample/Analysis/Reporting, Analysis of physical, chemical and microbiological quality of water, Adaptation of water supply methods and waste disposal methods to an Industry plantation setting, Disposal of Solid Wastes, Sewage Treatment, Healthcare and Hospital Waste Management</p> <p>National Malaria Eradication Programme, National Filariasis Control Programme, NVBDCP, Insecticides, Administrative work, Public Health work.</p>
६	<p>महापालिका उप सचिव, गट-ब Municipal Deputy Secretary, Group B (Non Gazetted)</p>	<p>Indian Penal code, Code of Civil procedure, Code of criminal procedure, Indian Evidence Act, Constitution of India, Transfer of property Act, Contract, Limitation Act, Court Fees Act, Special Relief Act, Registration Act, The Negotiable Instruments Act, 1915</p>
७	<p>महिला व बाल कल्याण अधिकारी, गट-ब Women and Child Welfare Officer, Group B (Non Gazetted)</p>	<p>Human Nutrition and Food Science: Importance of nutrition for well being, Nutrients-carbohydrate, protein, fat, energy, fat soluble vitamins-A,D,E,K, water soluble vitamins-B-complex and Vit.C, minerals-Ca, P, Fe, I, Zn, Na, F - Role, Functions, Sources, Requirements, Deficiency signs and symptoms and Health problems associated, Child Nutrition and Malnutrition, Legislations and Programmes pertaining to child health and Nutrition in India, Child Welfare and Policy, Early Childhood Care and Education, Pregnancy-Care, complications, during delivery, Postnatal care of mother and child, Care of newborn-Importance of breastfeeding, weaning; Characteristics of newborn, Characteristics and care of premature baby. Human Rights,</p>

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		<p>National, State Women Commission their Function, Role, Responsibility, tenure, Children rights, ACT, Commission Function.</p> <ul style="list-style-type: none"> <li>• Indian Constitution (Specific For Child and Women Clause)</li> <li>• ICDS Scheme for Women and Child Development.</li> <li>• Various Scheme for Women and Child welfare From Central, State, District, Taluka, Rural Area.</li> </ul>
८	<p>माहिती व जनसंपर्क अधिकारी, गट-ब Public Relations Officer, Group B (Non Gazetted)</p>	<p><b>PUBLIC RELATION</b></p> <ul style="list-style-type: none"> <li>• Public Relations: Definitions, PR as a communication function.</li> <li>• Difference between PR, Propaganda and Public Opinion, Advertising.</li> <li>• PR as a two way communication, process of PR, PR in different sectors like Govt., Non-Govt.</li> <li>• Publics in Public Relations, Management of Crisis by PR. PR communication and how to be effective PR communicator.</li> </ul> <p><b>PR PUBLICS</b></p> <ul style="list-style-type: none"> <li>• Types of PR Public: Internal and External</li> <li>• PR Tools, Press Conference, Press Releases, Journals</li> <li>• Code of ethics of PR, Laws pertaining to Press.</li> </ul> <p><b>ADVERTISING</b></p> <ul style="list-style-type: none"> <li>• Definitions, Scope Functions, historical development</li> <li>• Types of Advertising</li> <li>• Ethical Aspects of Advertising, Law and Advertising.</li> <li>• Advertising and Marketing</li> </ul> <p><b>Advertising Agency</b></p> <ul style="list-style-type: none"> <li>• Structure and Functions and Types of Advertising Agency</li> <li>• Advertising Appeals, media Selection and copy writing- newspapers, magazines,</li> <li>• Radio, Television, Outdoor.</li> <li>• Advertising testing and research.</li> </ul>
९	<p>सहा. नगररचनाकार, गट-ब Assistant Town Planner, Group B (Non Gazetted)</p>	<p><b>Current events and Technology</b> Current events of national and international importance – Industrial, Economic, Spatial Planning , Urban Development, Technology - Applications of Total station, Drone, Remote sensing , GIS, GPS, Computer-Aided Design in Urban Planning</p> <p><b>Urbanisation , Govt. Schemes and Missions</b></p> <p>a) Salient features of Indian Urbanisation with specific reference to Maharashtra, Challenges of Urbanisation</p> <p>b) Atal Mission for Rejuvenation and Urban Transformation, Shyam Prasad Mukherjee Rurban Mission, Pradhan Mantri Awas Yojna, Smart City</p>

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		<p><b>Policies in India and Maharashtra</b> National Urban Transport Policy, National Land-utilisation policy, National Housing Policy</p> <p><b>RTI &amp; RTS Acts</b> - Right to Information Act, Right to Services Act</p> <p><b>Theories of Planning –</b> Garden City Concept, Gedadian Trio Concept, Concentric zone model, Sector Theory, Multi-nuclei theory, Neighborhood Concept</p> <p><b>Regional Plan-</b> Need of Regional Plan, Delineation of Region, Types of Regions, Contents of Regional Plan, Surveys necessary for Regional Plan, Analysis and Projections , Process of preparation of Regional Plan as per provisions of MR and TP Act, 1966, Relation with State Plan and surroundings</p> <p><b>Development Plan-</b> Difference between Structure Plan and Development Plan, Classification of Towns, Surveys, Analysis and Projections, Demographic projections, Goals and Objectives, Public participation, Implementation and financial aspects, Relation with Regional Plan, Contents of D.P., Planning norms, Modifications to sanctioned DP, Modifications of substantial nature, Notices under section 49 and 127, Process of DP preparation, publication, submission and approval as per provisions of MR and TP Act, 1966.</p> <p><b>Town Planning Scheme-</b> Concept, Preparation of TP Scheme as per provisions of MR and TP Act, 1966, Relation with DP, Original Plot, Final Plot, Semi-final plot , Incremental contribution and rationale for charging it, Contents of TPS, Cost of TPS, Advance possession, Amenities partially beneficial, Functions of Arbitrator, Functions of Tribunal of Appeal</p> <p><b>Local Area Plan-</b> Concept , Objectives, Delineation of LAP boundary, Methodology of preparation, Case studies in India, Provision in UDCPR</p> <p><b>Unified DevelopmentControl Regulations-</b> Procedure for obtaining development permission/building permission, Grant/ refusal of permission, deemed permission, Approvals on risk-based categorisation, Commencement of works, General land development requirements, Land-Use Classification and equivalency of zones, concept of p-line, Ancillary FSI, TDR, AR, Reservation Credit Certificate, Removal of difficulties, Redevelopment of old dilapidated/dangerous</p>

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		<p>buildings, housing for EWS/LIG, Incentive for green buildings, Off-street parking requirements, Affordable housing, Voluntary TP Schemes, Heritage list card, premiums and their payment , Integrated Township, Transit oriented development</p> <p><b>Development Charges and Appeal –</b> Development charges, Revocation of permission, Provisions of appeal under section 47 and 124, Actions against unauthorised development</p> <p><b>Transportation-</b> Transportation Studies, Origin and Destination, traffic volume survey, modal split, transport System</p> <p><b>Environment-</b> Environment Clearance, Environmental Impact Assessment</p> <p><b>Acts and Rules-</b> Evolution of Planning Legislation in India, Maharashtra Regional Town Planning Act, 1966 and rules thereunder, Maharashtra Municipal Corporations Act, 1949, Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act, 1965, Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act, 1965, Maharashtra Land Revenue Code, 1966, Environment Protection Act, 1986, Bombay Stamp Act, 1958, 73<sup>rd</sup> and 74<sup>th</sup> Constitutional Amendment Act.</p> <p><b>Land Acquisition</b> Need of compulsory acquisition, Functions of Land Acquisition officer, Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013</p> <p><b>Valuation</b> Value, Cost, Price, Purposes of Valuation, Special Characteristics of landed property, Supply and demand of landed property, Interests in landed property, Forms of Value, Forms of rent, Capitalised value, Year's purchase, Outgoing, Depreciation, sinking fund, reversionary value</p> <p><b>Valuation Tables</b> Meaning and utilities of valuation tables, Amount of Rs. 1/-, Present value of Rs 1/-, Amount of Rs.1/- p.a., Present value of Rs.1/-p.a., Annuity of Rs.1/-, Sinking fund, Single and dual rate table-concepts</p> <p><b>Methods of Valuation</b> Comparative methods, Market Approach, Contractor's method, Investment method, Belting method</p>

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		<p><b>Annual Statement of Rates-</b> True Market Value, Procedure for preparation of Annual Statement of Rates, Valuation for bulk land.</p>
१०	सांख्यिकी अधिकारी, गट-ब Statistics Officer, Group B (Non Gazetted)	<p><b>1. Data Collection-</b> Type of data, Qualification and Qualitative data, Data for univariate and multivariate cases, Sources of data collection- Primary and Secondary Sources.</p> <p><b>2. Presentation of Data-</b> A) Prepare of frequency tables-Univariate, Bivariate and Multivariate. B) Diagrammatic and Graphical presentation of data and its interpretation.</p> <p><b>3. Elementary Statistical Methods-</b> A) Measures of Central tendency-Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Quartiles, Deciles, Percentiles. B) Measure of Dispersion- Absolute and Relative measures- Range, Quartile C) Concepts of skewness and Kurtosis. D) Correlation and Regression.</p> <p><b>4. Probability-</b> A) Concept of probability, Elementary laws of probability, Conditional probability, Bayes Theorem, Theory of Expectations. B) Theoretical Probability Distributions-Binomial, Poisson and Normal.</p> <p><b>5. Theory of Statistical Inference-</b> A) Theory of Estimation- Point Estimation and Interval Estimation- Concept of an Estimator, Desirable properties of an estimator, Methods of Estimation-Ordinary Least square method, Maximum Likelihood Method, Statement of Gauss Markov Theorem. B) Hypothesis Testing – Simple and composite Hypothesis, Technique of testing of Hypothesis, Small and Large sample tests-t, Normal, Z and F tests contingency Tables.</p> <p><b>6. Interpretation of Linear Models-</b> Models with one and more explanatory variable. Significance of regression coefficients, Goodness of fit (R<sup>2</sup>)</p>

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		<p><b>7. Sampling Methods-</b> Simple Random Sampling, Stratified Random Sampling, Systematic Sampling, Cluster Sampling, Multistage Sampling, use of auxiliary information.</p> <p><b>8. Index Numbers and Time Series-</b> A) Index Numbers-Types of Index Numbers-Price, Quantity and cost of living Methods of construction of Index Numbers. B) Time Series Analysis-Components of a time series-Trend, Seasonal variation, Cyclical variation, random variation Fitting of trend-Moving Average method, least square method.</p> <p><b>9. Statistical Organization in India-</b> Central Statistical Organization, National Sample Survey Organization, State Directorate of Economics and Statistic, The Reserve Bank of India, Registrar General of India, Types of data collected by them. i.e. Population Census, Economics Census, Agricultural Census, Forest Statistics, Livestock Census, Industrial Statistics, Trade statistics, Labour Statistics</p> <p>10. Vital Statistical in India- Different Birth Rates and death rates, Gross and Net reproduction rates, Infant Mortality rate. Life tables.</p> <p>11. National Income Estimation- Methods of National Income estimation concepts-Gross Domestic Product, Net Dometic Product, Gross National Product and Net National product.</p> <p><b>NOTE - Latest and recent developments in the above topics will also be Expected from candidates.</b></p>
११	उप मुख्य अग्निशमन अधिकारी - गट-ब Deputy Chief Fire Officer, Group B (Non Gazetted)	<ol style="list-style-type: none"> <li>1. Plan reading for fire prevention.</li> <li>2. Detail Knowledge of NBC Part III &amp; IV.</li> <li>3. Designing of Vehicles for fire.</li> <li>4. Administrative Knowledge of Fire department working.</li> <li>5. Budget Preparation.</li> <li>6. Implementation of Maharashtra fire prevention of fire safety act.</li> <li>7. Practical fireman ship &amp; supervisory role at fire ground.</li> </ol>



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		<ol style="list-style-type: none"> <li>8. Knowledge about the hazardous goods transportation &amp; TREM Card, MSDS of material.</li> <li>9. Fire Ground operation &amp; knowledge about fire pump, PTO, A.L.P., TTL.</li> <li>10. Basic Knowledge about disaster management.</li> <li>11. Fire Engineering Fundamentals: Chemistry of Fire, Combustion process, Limits of Flammability, flame Spread, Effects of Heat, Fire Resistance, Fire Load etc.</li> <li>12. Fire Fighting Chemicals: Water, Foam, DCP, Clean agents etc.</li> <li>13. Fire Detection &amp; Control: fire Detection principles, Classification of detectors, Fire Extinction methods, water based, chemical based, clean agent systems, operation and maintenance of detection/ alarm systems</li> <li>14. Fire Protection - 1 (Special hazards: Industrial Fires): Fire Suppression Systems, Fire Water systems, sprinkler systems, Fire resistant construction, Emergency exists</li> <li>15. Fire Protection - II (Special hazards: Flammable Liquid Storages): Plant siting considerations, Ignition source control, Hazards of Bulk storages, Fire Protection for Flammable storages, Passive barriers</li> <li>16. Fire Services Hydraulics: Sprinkler system demand, hydraulics of sprinkler systems etc.</li> <li>17. Fire Safety Laws: Doctrine of Sovereign immunity; Factories Act, Explosives act, Petroleum act etc.</li> <li>18. Fire Codes and Standards: Standards for Fire Equipment, Personal Safety equipment etc.</li> <li>19. Paramedics /First Aid: Management of Burns, Fractures, wounds, trauma handling etc.</li> <li>20. Inspection &amp; Testing of Fire Fighting Systems: Fire Sprinkler testing, OISD/NFPA standards for testing &amp; Inspection, Fire Pumps testing etc.</li> <li>21. Safety Management: Goals &amp; Need of Safety, Accident Prevention, Accident Investigation,</li> </ol>

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		<p>Personal Protection equipment etc.</p> <p>22. Safety in Construction: Safety in welding &amp; gas cutting, excavations, work at height, electrical, material handling, lifting/hoisting etc.</p> <p>23. Safety Engineering: Accident trends in Industry, Safety Indices, Frequency &amp; Severity Rates, Job Safety Analysis, work permit administration etc</p>
१२	अग्निशामक, गट-क Fireman, Group C	General fire causes and extinguishing methods, Media, Class of fire, Tetrahedron of fire, Fire extinguishers, Maintenance and test general description of firefighting equipment, Fire tenders, Coal and gas fires, Electrical fires, Special rescue methods etc.
१३	अधि. परिचारिका (जी.एन.एम), गट-क Staff Nurse (General Nursing Midwifery), Group C	RCH Programme, NURSING ART, ANATOMY PHYSIOLOGY, MICROBIOLOGY, MEDICAL SURGICAL NURSING PART I AND II, MENTAL HEALTH – PSYCHATIRC, MIDWIFERY & GYNACOLOGY , PEADATRIC NURSING, COMMUNITY HEALTH NURSING PART I AND PART II, Biomedical waste management rules, Immunisation, Administrative work.
१४	आरेखक (ड्राप्समन/स्थापत्य/ तांत्रिक), गट-क Draftsman (Civil), Group C	<p><b>UNIT-1: BASIC ENGINEERING</b> Lettering, Lines, dimensioning, symbols, construction of scales, types of projections.</p> <p><b>UNIT-2: CONSTRUCTION MATERIALS AND CONSTRUCTION PRACTICE:</b> Brick, stone, cement, lime, sand, timber, steel, clay products, mortar, concrete, foundation, brick masonry, stone masonry floors &amp; flooring, roof and roof covering, stairs, doors and windows, damp proofing course, pointing, plastering, lintel, arches, scaffolding. All Types of carpentry Joints, Prepare Layout drawing for Electrical works.</p> <p><b>UNIT-3: SURVEY:</b> Chain survey, compass survey, levelling, theodolite survey, contours. Plane Table Survey - Modern Survey - Total station, GPS. Technical Terms in Total Station - Adjustment and co-ordinate measurement - Open traverse and Closed traverse, Calculate surface area. GPS (Global Positioning System) - Practical application of GPS – Components of GPS – GPS segment organisation</p> <p><b>UNIT-4: BUILDING PLAN LAYOUT</b> Principle of planning- Orientation of Building - Local Building by Laws as per code - Lay out site and key plan-Making plan and elevation and Section of building - Approved Drawing.</p>

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		<p><b>UNIT-5: AUTO CAD</b> Create object on using Auto CAD. Plotting of drawing from CAD-2D drafting of building plan - Elevation and Section and other Building details - Design Lay out of Furniture Electrical appliance and plumbing sanitary fittings - Basic 3D drawing.</p> <p><b>UNIT-6:REINFORCED CEMENT CONCRETE(RCC)</b> Selection of materials - Details of reinforcement - One way slab and two way slab, RCC, Column, Beam details - Safety against earthquake - Grade of cement - Bar bending schedule - Details of Steel Roof Trusses.</p> <p><b>UNIT-7: TRANSPORTATION ENGINEERING Roads</b> – Roads Technical Terms and uses of Roads - Cross section of different types of Road - Road curves and gradient, General principles of alignment - Road drainage System - Bridges and culvert - Different types of culvert &amp; Bridges – Railway - Technical Terms and uses - Cross Section of Railway track - Types of gauges and rails.</p> <p><b>UNIT-8: PUBLIC HEALTH AND SANITATION</b> Various pipe joints - Types of Sanitary fittings - Manholes and Septic tank - Water Supply system - Over head tank - Preparation of Service plan, Drainage plan, Sewer System - Flow diagram of water treatment plant - Terms used in Public Health - Types of Sewer.</p> <p><b>UNIT-9: IRRIGATION</b> Technical terms used in irrigation - Types of cross drainage work - Types of Reservoir.</p> <p><b>UNIT-10: ESTIMATE AND COSTING.</b> Prepare details estimate for each items and Abstract - Rate analysis.</p>
१५	उद्यान पर्यवेक्षक, गट-क. Garden Supervisor, Group C	Horticulture, Styles of Gardening, Lawn Development, Roadside\plantation of trees/shrubs. Flowering shrubs, Hedges, Bonsai and its maintenance, Annual flowers, Topiary, Indoor and outdoor potted plants, Propagation of roses , Chrysanthemum, Dahlia, Bougainvillea, Hanging Basket, Cultivation of Cut flowers i.e. Roses, Gladiolus, Orchids, Tuberose, Lilium and Anthurium , Ground Covers, Medicinal Plants, Scented Shrubs/Trees, Propagation, Plant Protection, Nursery management, Routine Garden operations, Features of the garden, Flower shows and Garden Competitions, Floral ornaments and Flower Arrangements.

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१६	उप अग्निशमन केंद्र अधिकारी, गट-क Semi Fire Station Officer, Group C	<p><b>Fire Engineering Fundamentals:</b> Chemistry of Fire, Combustion process, Limits of Flammability, Flame Spread, Effects of Heat, Fire Resistance, Fire Load etc. Fire Fighting Chemicals: Water, Foam, DCP, Clean agents etc.</p> <p><b>Fire Detection &amp; Control:</b> Fire Detection principles, classification of detectors, Fire Extinction methods, water based, chemical based, clean agent systems, operation and maintenance of detection / alarm systems</p> <p><b>Fire Protection - I (Special hazards: Industrial Fires):</b> Fire Suppression Systems, Fire Water systems, sprinkler systems, Fire resistant construction, Emergency exits</p> <p><b>Fire Protection - II (Special hazards: Flammable Liquid Storages):</b> Plant siting considerations, Ignition source control, Hazards of Bulk storages, Fire Protection for Flammable storages, Passive barriers</p> <p><b>Fire Services Hydraulics:</b> Sprinkler system demand, hydraulics of sprinkler systems etc.</p> <p><b>Fire Safety Laws:</b> Doctrine of Sovereign immunity; Factories Act, Explosives act, Petroleum act etc.</p> <p><b>Fire Codes and Standards:</b> Standards for Fire Equipment, Personal Safety equipment etc. Paramedics / First Aid: Management of Burns, Fractures, wounds, trauma handling etc.</p> <p><b>Inspection &amp; Testing of Fire Fighting Systems:</b> Fire Sprinkler testing, OISD/NFPA standards for testing &amp; Inspection, Fire Pumps testing etc.</p> <p><b>Safety Management:</b> Goals &amp; Need of Safety, Accident Prevention, Accident Investigation, Personal Protection equipment etc.</p> <p><b>Safety in Construction:</b> Safety in welding &amp; gas cutting, excavations, work at height, electrical, material handling, lifting/hoisting etc.</p> <p><b>Safety Engineering:</b> Accident trends in Industry, Safety Indices, Frequency &amp; Severity Rates, Job Safety Analysis, work permit administration etc</p>

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१७	औषध निर्माता, गट-क Pharmacist, Group C	GENERAL pharmacology 1 TYPE OF Drugs, General Classifications of Drugs, Drug Doses forms, & Bioavailability. Indications, contraindications, Adverse Drug Reaction, Roll of antibiotics, Clinical Pharmacology, Neuro Pharmacology. Psycho Pharmacology, Cardiovascular Pharmacology, Pharmacy epidemiology, Dental Pharmacology. Indian Pharmacopeia, British Pharmacopeia, Pharmacy Act 1948, Drugs & cosmetic Act 1940, & amendments, Food & Drug Administration, Drug Storage, Logistics & inventory management, Roll of Hospital Pharmacist, Community Pharmacy, Good Manufacturing Practices(GMP), Disinfectants & their concentrations used in pharmaceuticals & hospitals, EDL & ECL list (Standard list of Drugs & Consumables required to run hospital), Biomedical waste management rules.
१८	कनिष्ठ अभियंता (यांत्रिकी), गट-क Junior Engineer (Mechanical), Group C	Engineering Mechanics, Computer Integrated Manufacturing, Mechanics of Materials, Machine Design Metrology and Inspection, Theory of Machines, Fluid Mechanics, Refrigeration and Air- Conditioning, Production Planning and Control, Casting, Forming and Joining Processes, Machining and Machine Tool Operations, Heat - Transfer, Thermodynamics, Power Engineering, Turbo - machinery, Engineering Materials I. C. Engines, Operations Research, Vibrations, Inventory Control etc.
१९	कनिष्ठ अभियंता (विद्युत), गट-क Junior Engineer (Electrical), Group C	Basic Concepts, Circuit Law, Magnetic Circuit, AC Fundamentals, Measurement and Measuring Instruments, Electrical Machines, Fractional Kilo Motors & Single-phase Induction Motors, Synchronous Machines Generation, Transmission and Distribution, Estimation and Costing, Utilization and Electrical Energy, Basic Electronics, Analog and Digital Electronics, Basic Electrical Engineering Concepts, Basic Electronics etc. Power Systems, Power Electronics & Drives, Network Theory, Concept of Renewable Energy
२०	कनिष्ठ अभियंता (संगणक), गट-क Junior Engineer (Computer), Group C	Data Structures using C, Operating System, Database Management Systems, Management Information Systems Software Engineering, System Programming, Computer Architecture, Java Programming, Artificial Intelligence, Advance DBMs (Database Management system), Software Project Management, Object-oriented Programming, Design & Analysis of Algorithms , IOT (Internet of Thing)

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२१	कनिष्ठ अभियंता (स्थापत्य), गट-क Junior Engineer (Civil), Group C	Building Materials, Surveying, Engineering Mechanics Environmental Engineering, Soil Mechanics, Irrigation Engineering, Hydraulics, Quantity Surveying, The Design of Structures, Transportation Engineering etc.
२२	कनिष्ठ अभियंता (हार्डवेअर नेटवर्किंग) गट-क Junior Engineer (Hardware / Networking), Group C	Operating System, Computer Architecture, Advanced Networking, Network Operating System, Computer Graphics, Hardware & Networking, Networking Device Microprocessor, Database Administrating , Introduction to Server & Network Security, Network Security Device
२३	कनिष्ठ लिपिक (लेखा), गट-क Junior Clerk (Accounts), Group C	Trading and Profit & Loss Accounts & Balance Sheet, Self Balancing Ledgers and Sectional Balancing, Bills of Exchange, Depreciation Reserve & Provisions, Capital & Revenue, Receipts & Payments, Income & Expenditure Account, Double Account System, Branch and Departmental Accounts, Rectification of Errors, Bank Reconciliation statement, Balance Sheet Formats & Classification, Accounts, Financial Management, Company Laws, Auditing, Taxation- Direct/ Indirect, Commercial Laws, Cost Accounting, Ind AS
२४	कनिष्ठ लिपिक (लेखा परिक्षण), गट-क Junior Clerk (Audit), Group C	Trading and Profit & Loss Accounts & Balance Sheet, Self Balancing Ledgers and Sectional Balancing, Bills of Exchange, Depreciation Reserve & Provisions, Capital & Revenue, Receipts & Payments, Income & Expenditure Account, Double Account System, Branch and Departmental Accounts, Rectification of Errors, Bank Reconciliation statement, Balance Sheet Formats & Classification, Accounts, Financial Management, Company Laws, Auditing, Taxation- Direct/ Indirect, Commercial Laws, Cost Accounting, Ind AS
२५	कनिष्ठ सुरक्षा अधिकारी, गट-क Junior Security Officer, Group C	Importance of safety and general precautions observed in the industry/shop floor. All necessary guidance to be provided to the new comers to become familiar with the working of Institute system including stores procedures. Introduction of First aid. Safety attitude development of the trainee by educating him to use Personal Protective Equipment (PPE), Response to emergencies eg; power failure, fire, and system failure. Accidents- Definition types and causes. First-Aid, nature and causes of injury and utilization of first-aid, ntroduction to 5S concept & its application. Fire: - Types, causes and prevention methods. Fire Extinguisher, its types. Monitoring of CCTV and and its working

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२६	चालक यंत्र चालक, गट-क Driver cum Operator, Group C (Fire Services)	Information about Fire Service Organization; First Aid & Personal Protective Equipment; Watch Room Procedure ; Tips on Fire Fighting and Evacuation - Mock Drills & Evacuation Drills; Fire Service Manual, Chemistry of Fire; Hose; Hose Fittings; Extinguishers; Rural Fires; Ladders; Small Gears; Knots & Lines; Ropes & Lines; Water Tender & other Fire Appliances; Building Construction; Salvage; Water Supply. Pumps & Primers; Mechanical Foam & Foam Equipment; Water Relay; Special Appliances; Breathing Apparatus; Special Services; Electricity; Practical Fireman Ship; Gas, Oil Fires and Chemical Fires.
२७	परिचारिका (ए.एन.एम), गट-क Auxiliary Nursing Midwifery, Group C	Community Health Nursing; Health Promotion, Nutrition; Human Body & Hygiene; Environmental Sanitation, Mental Health, Primary Health Care Nursing, Infection and immunization, Communicable Diseases, Community health problems; Primary medical care, First aid and referral; Child Health Nursing, Health Centre Management, Midwifery, Antenatal ward; Intra-natal/labour room, Post-natal ward, Neonatal care unit, RCH Programme, Immunisation Programme.
२८	प्रमुख अग्निशमन विमोचक, गट-क Leading Fireman, Group C	General fire causes and extinguishing methods, Media, Class of fire, Tetrahedron of fire, Fire extinguishers, Maintenance and test general description of firefighting equipment, Fire tenders, Coal and gas fires, Electrical fires, Special rescue methods etc.
२९	लघु लिपिक टंकलेखक, गट-क Steno - Typist, Group C	As no Technical subject in this post, so the common syllabus will be applicable for this Post.
३०	लघु लेखक (निम्नश्रेणी) (इंग्रजी/मराठी) गट- क Stenographer (Lower Grade) (English/Marath i) Group C	As no Technical subject in this post, so the common syllabus will be applicable for this Post.
३१	लिपिक टंकलेखक, गट-क Clerk cum Typist, Group C	As no Technical subject in this post, so the common syllabus will be applicable for this Post.

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३२	वाहनचालक (जड), गट-क Driver (Heavy Vehicle), Group C	Basic Road Rules, driving methods and speed limits, Traffic Police hand signals, Hand signals while driving, Traffic light signals, Road map reading, Knowledge of traffic signages for road safety, First aid kit, Driving on wet surface, Driving in fog, Night driving, Brake failure, Basic knowledge about provisions of the Motor Vehicle Act, Essential knowledge about vehicle pollution, Awareness about documents required for driving and offence related, Identification of major assemblies of vehicle, Knowledge of daily and periodic inspection, Knowledge of fault diagnosis in tyre and its changing procedure, Knowledge of dash board's symbols.
३३	वाहनचालक (हलके), गट-क Driver (Light Vehicle), Group C	Basic Road Rules, driving methods and speed limits, Traffic Police hand signals, Hand signals while driving, Traffic light signals, Road map reading, Knowledge of traffic signages for road safety, First aid kit, Driving on wet surface, Driving in fog, Night driving, Brake failure, Basic knowledge about provisions of the Motor Vehicle Act, Essential knowledge about vehicle pollution, Awareness about documents required for driving and offence related, Identification of major assemblies of vehicle, Knowledge of daily and periodic inspection, Knowledge of fault diagnosis in tyre and its changing procedure, Knowledge of dash board's symbols.
३४	व्हॉलमन / कि-किपर, गट-क Valveman / Key-kipper, Group C	Description, types and uses of holding device, hammers & cold chisels, cutting tools, Description of simple fitting operations hack sawing, punching and filing. Types of files used commonly. Marking instruments and their use of simple drilling machine, Description of different types of locking and fastening devices. About different types of pipes-GI, CI, DI, PVC/ CPVC, PPR, AC and HDPE Pipes etc, About different Types of Pipe Fittings:- Socket, Elbow, Tee, Union, Bend, Cap, Plug, Cross, Ferrule etc., About different types of Thread cutting. Safety precautions to be observed Different types of Valves.
३५	सर्व्हेअर/भूमापक, गट-क Surveyor, Group C	Tools & equipment's, Scales, Geometrical Construction, Classification of Survey, Signs & Symbols, Chain Survey, Compass Survey, Plane table Survey, Leveling, Contouring, Theodolite Survey, Tacheometry & Triangulation, Curves, Land Records documents i.e. 7x12 abstract, property card, Gut book. CTS Plan, Tikkas Sheet 6/12 extract, K.G.P., AUTOCAD
३६	सहायक क्रीडा अधिकारी, गट-क Assistant Sports Officer, Group C	(A) Scientific Development & Sports 1) Scientific authenticity of various tests for sports development; 2) Cardio- respiratory functions & their influence on sports performance; 3) Motorised fitness & its tests; 4) Knowledge & skill tests; 5) Physiological changes due to exercise; 6) Effect of exercise & training on (a) Heart & circulatory system (b) Respiratory system; 7) Energy



अ.क्र.	पद	निश्चित केलेला अभ्यासक्रम
		<p>cost of various sports activities; 8) Role of sports medicine in development of sports; 9) Application of mechanical principles in various sports; 10) Important features &amp; principles of training load; 11) Training for important motor components- Speed, strength, endurance, flexibility &amp; coordination abilities; (B) Organisation, Coaching &amp; Officiating 1) Influence of professional organisation in development of sports; 2) Public relations &amp; promotional activities in sports; 3) Important principles &amp; steps for organisation of sports tournament; 4) Methods of marking sports ground including athletic track; 5) Relationship with management, coaches, captain &amp; spectators; 6) Pre-game &amp; post-game duties of officials in sports competitions; 7) Differentiate between teacher, trainer &amp; coach; 8) Principles of coaching; 9) Rules of various games; 10) Principles of selection of sports teams; 11) Use of psychology in coaching; 12) Scientific principles applied to coaching; (C) History &amp; Psychology of Sports 1) Comparative study of ancient &amp; modern Olympic movement; 2) Study of development of physical education in INDIA 3) History &amp; development of various games; 4) Meaning nature &amp; scope of sports psychology; 5) Relationship of sports psychology with other sports; 6) Importance of sports psychology for a coach &amp; physical education teacher; 7) Personality development through sports participation; 8) Role of motives, attitudes &amp; interesting physical activity ; 9) Level of aspiration, emotions, frustration, conflict &amp; its effect on sports performance; 10) Sports audience &amp; effect of their behaviour on sports performance; 11) Socio - Psychological aspect of physical activities; (D) Miscellaneous 1) Leadership in Sports; 2) Classification of Sports; 3) League - Cum - Knock out Tournament; 4) Rhythmic activities in Sports; 5) National Institute of Sports; 6) Sports Authority of India; 7) Health Education; 8) Oxygen Debt; 9) Vital Capacity; 10) Indian Premier League; 11) Camping in Sports; 12) Purpose of Sports Seminars &amp; Conferences; 13) Role of Media in Promotion of Sports; 14) Individual differences; 15) Nutrition in Sports; 16) Learning Curve</p>
३७	<p>सहायक ग्रंथापाल, गट-क Assistant Librarian, Group C</p>	<p>Society and Library: Kinds of Libraries Five Laws of Library Science, Theory of Classification : Growth and Structure of Knowledge, Need and Purpose of Library Classification, Library Catalogue - Nature and Function, bibliographies and Bibliographic Control, Classification of Documents by DDC, Classification of Documents by CC, Documentation Techniques &amp; Services</p>

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३८	सहायक विधी अधिकारी, गट-क Assistant Law Officer, Group C	Indian Penal code, Code of Civil procedure, Code of criminal procedure, Indian Evidence Act, Constitution of India, Transfer of property Act, Contract, Limitation Act, Court Fees Act, Special Relief Act, Registration Act, The Negotiable Instruments Act, 1915
३९	सार्वजनिक आरोग्य परिचारिका (पी.एच.एन), गट-क Public Health Nurse, Group C	Community Health Nursing; Health Promotion, Nutrition; Human Body & Hygiene; Environmental Sanitation, Mental Health, Primary Health Care Nursing, Infection and immunization, Communicable Diseases, Community health problems; Primary medical care, First aid and referral; Child Health Nursing, Health Centre Management, Midwifery, Antenatal ward; Intra-natal/labour room, Post-natal ward, Neonatal care unit, RCH Programme, NURSING ART, ANATOMY PHYSIOLOGY, MICROBIOLOGY, MEDICAL SURGICAL NURSING PART I AND II, MENTAL HEALTH - PSYCHIATRY, MIDWIFERY & GYNACOLOGY, PEDIATRIC NURSING, COMMUNITY HEALTH NURSING PART I AND PART II, Biomedical waste management rules, Immunisation, Administrative work.
४०	स्वच्छता निरीक्षक, गट-क Sanitary Inspector, Group C	Environmental Sanitation: Water, Liquid Waste Disposal, Sewage Disposal, Solid Waste Disposal, Air, Sanitary Engineering: Soil Sanitation, Control Of Biological Environment, Identification, Sanitation Measures In Fairs, Housing Communicable & Non-Communicable Diseases: Communicable Diseases, Immunity & Immunisation, Diseases, Disinfection & Sterilisation, Diseases of skin, Personal Hygiene: Maintenance, Environmental Health, HIV/AIDS, Food sanitation, Health & Death Statistics: Health Statistics, Health Survey, Public Health Acts, Health Education, Group Meetings
४१	माळी, गट-ड Gardener, Group D	Kinds of Soil & Soil conservation, Water Harvesting, Climate Change, Classification of plants, Minerals and nutrition of the plants, Diseases: Bacteria/ Fungi/ Virus, Tree, shrubs Herbs and their parts & function, Weed control, Insect and pest control, Manure, fertilizer, vermi-compost & its applications, Basic knowledge of vertical garden, floating garden, Preparation of plants in nursery/ Seed bed, How to reduce pollution from planting.