

" महाराष्ट्र नगरपरिषदा , नगरपंचायती व औद्योगिक नगरे राज्यसेवा परीक्षा - २०२३

करीताचा अभ्यासक्रम

७. नगरपरिषद अभियांत्रिकी सेवा - अग्निशमन

प्रश्नपत्रिकांची संख्या:- दोन (पेपर -१ व पेपर - २ एकत्रित)

विषय		प्रश्न संख्या	गुण	दर्जा	माध्यम	कालावधी	प्रश्नपत्रिकेचे स्वरूप
पेपर - १	मराठी	१५	३०	बारावी	मराठी	७० मिनिटे	वस्तुनिष्ठ बहुपर्यायी
	इंग्रजी	१५	३०	बारावी	इंग्रजी		
	सामान्य ज्ञान	१५	३०	पदवी	मराठी व इंग्रजी		
	बौद्धिक चाचणी	१५	३०	पदवी	मराठी व इंग्रजी		
एकूण		६०	१२०				
पेपर - २	विषयांशी संबंधित घटक	४०	८०	पदवी	इंग्रजी	५० मिनिटे	वस्तुनिष्ठ बहुपर्यायी
एकूण		४०	८०			१२०	
एकूण = पेपर १ + पेपर २		१००	२००			मिनिटे	

नकारात्मक गुणदान -

१)	प्रत्येक चुकीच्या उत्तराकरिता २५% किंवा १/४ एवढे गुण एकूण गुणांमधून वजा / कमी करण्यात येतील.
२)	वरीलप्रमाणे कार्यपद्धतीचा अवलंब करताना एकूण अंतिम गुणांची बेरीज अपूर्णाकात आली तरीही ती अपूर्णाकातच राहिल व पुढील कार्यवाही त्याच्या आधारे करण्यात येईल.
३)	एखाद्या प्रश्नाचे उत्तर अनुत्तरित असेल तर, अशा प्रकरणी नकारात्मक गुणांची पध्दत लागू असणार नाही.

अभ्यासक्रम

संवर्गाचे नाव :- महाराष्ट्र नगरपरिषद - अग्निशमन सेवा		
पेपर - १		
अ. क्र	विषय	
१.	मराठी: सर्वसामान्य शब्दसंग्रह, वाक्यरचना, व्याकरण, म्हणी व वाक्यप्रचार यांचा अर्थ आणि उपयोग तसेच उतान्यावरील प्रश्नांची उत्तरे	Marathi : सर्वसामान्य शब्दसंग्रह, वाक्यरचना, व्याकरण, म्हणी व वाक्यप्रचार यांचा अर्थ आणि उपयोग तसेच उतान्यावरील प्रश्नांची उत्तरे
२.	इंग्रजी: Common Vocabulary, Sentence Structure, Grammar, letter and e-mail writing Use of Idioms and phrases & their meaning and	2 English: Common Vocabulary, Sentence Structure, Grammar, letter and e-mail writing Use of Idioms and phrases & their meaning and

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पेपर - १		
अ. क्र	विषय	
	comprehension of passage.	comprehension of passage.
३	सामान्य ज्ञान	General Studies
३.१	भारताचा विशेषतः महाराष्ट्राचा इतिहास	<ul style="list-style-type: none"> Indian History with special reference to Maharashtra
३.२	भारताचा विशेषतः महाराष्ट्राचा भूगोल	<ul style="list-style-type: none"> Indian Geography with special reference to Maharashtra
३.३	भारतीय अर्थव्यवस्था विशेषतः महाराष्ट्र <ul style="list-style-type: none"> भारतीय आयात निर्यात राष्ट्रीय विकासात सरकारी, सहकारी ग्रामीण बँकांची भूमिका शासकीय अर्थव्यवस्था - अर्थसंकल्प लेखा, लेखापरीक्षण इत्यादी किंमती वाढण्याची/चलन वाढ कारणे व उपाय 	Indian Economy with special reference to Maharashtra <ul style="list-style-type: none"> Indian Imports – Exports Role of Nationalise/Commercial, Co-operative, Rural banks in Indian Economy national development Government Economy, Sources and application of funds - Budgets Accounts and Audit etc Inflation – reasons and measures
३.४	भारतीय राज्य व्यवस्था :- <ul style="list-style-type: none"> भारताच्या घटनेचा प्राथमिक अभ्यास, संसद व राज्य विधान मंडळ इ. राज्य व्यवस्थापन (प्रशासन) ग्रामीण व शहरी प्रशासन 	Indian Political System :- <ul style="list-style-type: none"> Indian Polity & Constitution Parliament, state assembly etc. State administration Rural and Urban administration
३.५	चालू घडामोडी- जागतिक व भारतासंबंधी	Current Affairs related to India and World,
३.६	पर्यावरण:- <ul style="list-style-type: none"> मानवी विकास व पर्यावरण, पर्यावरण पुरक विकास, नैसर्गिक साधनसंपत्तीचे संधारण विशेषतः वनसंधारण विविध प्रकारची प्रदुषणे व पर्यावरणीय आपत्ती पर्यावरण संवर्धनात कार्यरत असलेल्या राज्य / जागतिक /राष्ट्र / संस्था / पातळीवरील संघटना 	Environment:- <ul style="list-style-type: none"> Human development and environment, Environment friendly / Sustainable development Conservation of natural resources specially forest conservation Types of pollutions and environmental disasters Institutions engaged in environmental conseversation at State, National and International Level
४	बुद्धीमापन चाचणी - उमेदवार किती लवकर व अचूकपणे विचार करू शकतो हे आजमावण्यासाठी प्रश्न	General Mental Ability : Questions will check how fast and accurate a candidate can think. Numerical Ability: Summation,

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अ. क्र	विषय
	<p>अंकगणित - बेरीज, वजाबाकी, गुणाकार, भागाकार, दशांश, अपूर्णाक व टक्केवारी.</p> <p style="text-align: right;">Subtraction, Multiplication, Division, Decimals, Fractions, Percentage</p>

पेपर २	
विषयाशी संबंधीत घटक (अग्निशमन सेवा)	
	<p>1. AIR-CONDITIONING & REFRIGERATION Introduction, Types of Air-conditioning Systems, Hazards and Structural precautions, Precautions and Special problems associated with each systems, principle of Refrigeration and types, Common refrigerents and their properties, Basic precaution, Hazards and Method of Control in Refrigerating and Air conditioning plant.</p>
	<p>2. BREATHING APPARATUS Introduction and Need/Importance of Breathing Apparatus in Fire Services, Compressed Air Breathing Apparatus- description of the set, face-mask and demand valve whistle manifold and reducer, Airline equipment, Testing and Maintenance, Working duration of Breathing Apparatus, Breathing Apparatus Equipment, Distress Signal Unit, Communication Equipment, Guide and Personnel lines Calculation of condition and duration. Reference to ISS Specification.</p>
	<p>3. BUILDING CONSTRUCTION & STRUCTURAL FIRE PROTECTION Introduction, Fire Resistance of Elements of structure, Behaviour of Elements structure in a Fire and Causes of wall collapse, Criteria for assessing the fire properties of building materials and Elements of Structure Fire load and grading of occupancies by fire load, Classification of Building based on occupancy and Fire Zones as per N.S.C. Occupational Hazard and Structural Fire Precautions including Means of Escape- Fire Protection in Buildings.</p>
	<p>4. PHYSICS & CHEMISTRY FOR COMBUSTION Combustion related properties of matter, Mechanism of Extinction-Effects of combustion, spontaneous-combustion, Hazardous materials.</p>
	<p>5. DISCIPLINE Introduction, Discipline vis-a-vis Leadership, General rules and principles of discipline in the Fire Service, Management and enforcement.</p>
	<p>6. ELECTRICITY Sources, Generation - methods, conductors, Insulators, Distribution and special hazards of Transformer and Sub-stations, Cables, Junction Boxes, Wiring Systems, Switches-Switch Gears etc. Lighting Lamps, Static Electricity, Electrical Hazards - Shock and Protection, Fire-fighting techniques for live installations.</p>

पेपर २

विषयाशी संबंधीत घटक (अग्निशमन सेवा)

	<p>7. EXPLOSIVE Introduction, Types of Chemical Explosives, Chemical Classification of Explosives, Principles of Storage & Transportation, Fire-fighting Classifications and Fire-fighting technique.</p>
	<p>8. FIRE EXTINGUISHERS Construction and Practical use of (a) Water type Extinguishers (i) Foam and Mechanical Foam Extinguishers (ii) Vapour Forming-Liquids or Gas Extinguishers-- Use of Halon Extinguishers. (iii) Dry Chemical Powder Extinguishers, Maintenance Procedure of all types of extinguishers IS Specifications for different sizes/types of extinguishers</p>
	<p>9. FIRE SERVICE ADMINISTRATION Structure of Fire Service organisation: (a) Organisation of Fire Service (b) Duties of different level of commands (c) Chain of Command. (d) Ranks and Rank Markings (e) Operational Jurisdiction. Station Administration: (a) Introduction to Station Management (b) Routines work at Station level (c) Duties of Station Officers at Station level to subordinate ranks for supervision and management procedure, Liaison Works in other departments and the public at large</p>
	<p>10. FIRST-AID & AMBULANCE AID Importance of First-aid in Fire Service structure and functions of the body-Blood Circulatory System, Wound accompanied by severe haemorrhage, Direct pressure, Pressure-points. Haemorrhage from an internal organ- signs, symptoms and management. Unconsciousness-causes, clinical features and classifications, Emergency Care of burns, Respiratory Distress-Causes, signs, symptoms and Emergency care, Shock-causes, signs, symptoms and management.</p>
	<p>11. FIXED FIRE FIGHTING INSTALLATION Introduction, Purpose & principle of Installation, Types of Installation-Manual and Automatic Suppression and their use, care and maintenance systems used in India and Regulations as per National Building Code, Codes of Practice prepared by Bureau of Indian Standard.</p>
	<p>12. FOAM & FOAM MAKING EQUIPMENT Introduction, Different foam concentrates, functional requirements & compatibility of foam-concentrate and dry chemical powder, Foam making equipment, Care and Maintenance of Foam making equipment. Reference to relevant ISS</p>
	<p>13. FIRE HAZARDS IN SPECIAL RISKS AREA AND FIRE PROTECTION</p>

पेपर २

विषयाशी संबंधीत घटक (अग्निशमन सेवा)

	<p>(a) Town Other Gas Works (b) Oil Installation and Tanks (c) Cross-Country pipelines of Gas mains (d) Industrial Materials and Dangerous Chemicals (e) Places of High Fire/Life Risks (i) Pressurised Tunnelling. (ii) Oxygen enriched atmosphere.</p>
	<p>14. FIRE SERVICE COMMUNICATION Importance and function of Watch-room and Control room & its requirements Procedure of handling of fire calls and special Service Calls etc. Identification of Communication requirement of Fire Service, Details of communication requirement of Fire Service. (a) Link Communication. (b) Radio-Communication Communication Planning in Fire Service</p>
	<p>15. FIRE PREVENTION INSPECTION PROCEDURE Preparation of check-list and follow-up procedure & maintenance of mastered register</p>
	<p>16. GAS, FIRES Classifications, Characteristics of gases and their risks, Dust Explosion, LPG, its hazards and Fire Precautions, Methods used by the Fire Service of Extinguishing Gas Fires</p>
	<p>17. HOSE Introduction, General Characteristics of Standard Delivery and Section Hose Material, Construction Maintenance, Repairs & Testing and latest development as per bureau of Indian Standard -Reference to relevant ISS</p>
	<p>१८. HOSE FITTINGS Standard Couplings, Branches and Nozzles special types of Branch and Nozzle, Branch Holders, Radial Branches and Monitors, Stand-pipes, Collecting heads and Suction- Hose Fittings, Breechings, Asaptors, Miscellaneous, Hose Fittings and Ramps. With reference to IS Specifications.</p>
	<p>१९. HYDRANTS & WATER SUPPLY Determination technique of "Fire flow" in accordance to fire load, Distribution of water supplies, Water resources for Fire-Fighting. Code of practice in respect of requirements and Standardisation of Hydrants, Hydrant Gear, Use of Flow-Motor, Marking, Testing, Care & Maintenance</p>
	<p>२०. HYDRAULICS Characteristics of Suction Lift and Atmospheric pressure, Pump-power and efficiency, Characteristics of flow in Hose and Nozzle discharge, Friction Loss, Jet-reaction and Water Hammer, Formulae and problems of the above.</p>
	<p>२१. INTERNAL COMBUSTION ENGINES Introduction, Principles of Internal Combustion Engine, Terminology used in this</p>

पेपर २

विषयाशी संबंधीत घटक (अग्निशमन सेवा)

	connection, description of power Units and the systems in relation to Petrol and Diesel Engines.
२२. INVESTIGATION OF FIRE	Introduction, Procedure of detection to the causes of fire–point of Ignition, Time of Ignition and cause of Ignition, Circumstances leading to suspicion and motives leading to Arson, Fire-fighting Techniques in case of Arson and guarding of evidence, Investigation Report, Conducting of Court of Enquiry
२३. LADDERS	Introduction of sophisticated aerial ladder, construction, use, Testing and Maintenance of TTL & Hydraulic platform Method of practical Operation and technique and safety requirement
२४. PUMPS	Introduction–Centrifugal Pumps and its characteristics, different types of Primers, design parameters of Pumping Appliances and their characteristics.
२५. PLAN READING	Importance of plan reading, its requirements and preparation of standard symbols, Introduction to the reading of Building plan and common symbols used and Abbreviations.
२६. PRACTICAL FIREMANSHIP	Principles to be followed at Fire Ground viz. Survey and recce and sizing up, Methods of Entry, Methods of Search and Rescue, Working in Smoke and Darkness, Hot atmosphere, central at a Fire, Ventilation and Procedure after fire/incidents, Fire-fighting strategy and tactics
२७. RESUSCITATION	Different methods of manual resuscitation, their advantages and disadvantages, Classification of Resuscitation sets, their construction and descriptions. Signs and symptoms of Asphyxiated persons in same special case, cases where artificial respiration not recommended.
२८. RURAL & FOREST FIRE	Causes of rural fires, specification, difficulties encountered in rural fires, normal methods and special technique employed in rural fire-fighting. Forest Fires–causes, characteristics, features and method of attack on a forest fire.
२९. SALVAGE	Introduction, Importance of Salvage, various factors of damage and their remedy, pre-planning and procedure for salvage work before, during and after the fire
३०. SMALL GEARS	Function and construction of various sophisticated small gears used in fire services including powered operated gears, Description and Operational use of Oxy Acetylene cutting sets, Oxy-Propane cutting sets, Pneumatic Jacks, Jumping Cushions, Blower exhauster and various types of Protective Clothing Powered spreader, Lifting bag, powered

पेपर २

विषयाशी संबंधीत घटक (अग्निशमन सेवा)

	saw and cutting tools.
३१. SPECIAL APPLIANCES	Emergency Tender, Crash fire, Tender, TTL Hydraulic Platform, Hose Laying Lorry, Break-down Van, Control Units, Canteen Vans, DCP Tender, Foam Tender, as per Standard specifications
३२.SPECIAL SERVICES	Rescue by Ordinary Means, Rescue by Fire Service Appliances and Equipment, Rescue from Lift, Rescue from Sewers and Wells, ponds, rivers, Rescue during earthquake and flood, rescue from nuclear Radiation Incident, Rescue Procedure in the presence of poisonous gases, Rescue problems and Rescue procedure in case of Highway accident Water rescue.
३३. STORAGE OF HAZARDOUS GOODS	Classification and study of conditions essential for storage of hazardous goods, Standard requirements for Transportation of Hazardous goods. Fire Service Authority seizure. Action by Operational Officer at accident of Hazchem on road control of Hazchem movement through city during daytime.
३४.WATER & WATER RELAY	Water requirements with reference to IS. Principles and Practical consideration of various methods Water Relay and operational hints.
३५.WATER TENDER	Study of various Indian Specification of conventional Fire Tenders and appliance as per Indian Standard
३६. MAINTENANCE OF EQUIPMENT & APPLIANCES	
३७. FIRE PREVENTION & FIRE PROTECTION	
३८. FIRE PROTETION SURVEY- NORMS FOR ESTABLISHMENT OF FIRE STATION	
३९. The Maharashtra Fire Prevention and life Safty measure Act 2006 with updated Amendment	
४०. The Maharashtra Fire Prevention and life Safty measure Rules 2009 with updated Amendment	