

नेपाल नागरिक उड्डयन प्राधिकरण  
प्राविधिक सेवा, एभिएशन फायर सर्भिसेज समूह, एघारौँ तह, निर्देशक पदको खुला/आन्तरिक प्रतियोगितात्मक  
लिखित परीक्षाको पाठ्यक्रम

द्वितीय पत्र : सेवा सम्बन्धी  
खण्ड (क) - ६० अङ्क

- 1. Chemistry of Fire**
  - 1.1 Introduction of fire
  - 1.2 Classes of fire
  - 1.3 Chemistry of combustion
  - 1.4 Methods of extinguishment
  - 1.5 Characteristics of solid, liquid and gas fires
  - 1.6 Heat and temperature
  - 1.7 Fire behavior
  
- 2. Rescue and Fire Fighting Service (RFFS)**
  - 2.1 Fire station administration
  - 2.2 Fire station activities
  - 2.3 Basic elements of fire station
  - 2.4 Design and siting of airport fire station
  - 2.5 Watch tower operation
  - 2.6 RFFS SOP and Manual
  - 2.7 Concept of satellite fire station
  
- 3. Aircraft Firefighting and Rescue Procedure**
  - 3.1 Fighting aircraft fires
  - 3.2 Helicopter Fire Fighting
  - 3.3 Rescue tactics and associated equipment requirements
  - 3.4 Accidents involving dangerous goods
  - 3.5 Response to acts of unlawful interference
  - 3.6 Compartment fire & tactical ventilation
  - 3.7 Liquefied petroleum gas firefighting tactics & techniques
  - 3.8 Post-accident procedures
  - 3.9 Post-incident operations
  
- 4. Factors in the specification process for rescue and firefighting vehicles**
  - 4.1 Introduction
  - 4.2 Preliminary considerations
  - 4.3 Preparation of specification
  - 4.4 Additional contractual considerations
  - 4.5 Aspects to be considered in preparing a specification for an RFF vehicle
  
- 5. Level of Protection to be Provided**
  - 5.1 Airport category
  - 5.2 Amounts of extinguishing agents
  - 5.3 Critical area for calculating quantities of water
  - 5.4 Discharge rates
  - 5.5 Response time
  - 5.6 Number of vehicles and equipment
  
- 6. RFF Personnel**
  - 6.1 General requirements
  - 6.2 Selection of personnel for RFF duties

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- 6.3 Management of RFF personnel
- 6.4 Physical and Medical fitness for RFF Services
- 6.5 ARFFS Task Resource Analysis (TRA)
  
- 7. Fire Prevention**
  - 7.1 Causes of fire
  - 7.2 Fire prevention programme and activities
  - 7.3 Public/employee fire awareness planning
  - 7.4 Inspection, fire risk and preventive measures
  - 7.5 Fire alarm and detection system
  - 7.6 Test and inspection of extinguishers
  - 7.7 Fire prevention during refueling operations
  
- 8. Training**
  - 8.1 General
  - 8.2 Fire dynamics, toxicity and first aid
  - 8.3 Extinguishing agents and firefighting techniques
  - 8.4 Handling of vehicles, equipment
  - 8.5 Aircraft layout and aircraft construction
  - 8.6 Operational tactics and maneuvers
  - 8.7 Emergency management
  - 8.8 Physical and mental fitness
  
- 9. Rescue Operation in Difficult Environments**
  - 9.1 General
  - 9.2 Operational procedures for accident in the difficult terrain
  - 9.3 Assessments to approach beyond runway thresholds
  - 9.4 Inter-agency exercises
  
- 10. Airport Emergency Planning (AEP)**
  - 10.1 Concept
  - 10.2 Responsibility and role of each agency for each type of emergency
  - 10.3 Emergency operations centre, mobile command post and on-scene commander
  - 10.4 Airport emergency exercises
  - 10.5 Triage and medical care
  - 10.6 Communications
  - 10.7 Review and documentation
  
- 11. Aerodrome Safety**
  - 11.1 Concept of Universal Safety Oversight Audit Program (USOAP)
  - 11.2 Regulatory functions and requirements under Civil Aviation Authority of Nepal
  - 11.3 Concept of State Safety Program (SSP)
  - 11.4 Safety policy, Safety risk management, Safety assurance & Safety promotion
  - 11.5 Hazard identification, Safety Risk Assessment, Risk mitigation, gap-analysis, Acceptable Level of Safety, Runway Safety Program, Runway Safety Team, Safety Action Group, Safety Review Board, Current status of SMS implementation
  
- 12. Wildlife Hazard Management**
  - 12.1 Introduction

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- 12.2 Aerodrome wildlife safety risk assessment
- 12.3 Habitat management
- 12.4 Management of hazardous wildlife
- 12.5 Operational notifications
- 12.6 Wildlife hazard management programme

**13. Human Factor in Rescue & Fire Fighting Services**

- 13.1 General
- 13.2 SHELL MODEL
- 13.3 Human Factors issue in RFF services
- 13.4 Operational effectiveness and standards
- 13.5 Safety and Well-being of RFF personnel

**14. Removal of Disabled Aircraft (RODA) Manual**

- 14.1 Introduction of RODA
- 14.2 Preparation
- 14.3 Role and Responsibilities of ARFFS
- 14.4 Site survey
- 14.5 Post-recovery corrective actions

खण्ड (ख) - ४० अङ्क

**15. Preventive maintenance of vehicles and rescue equipment**

- 15.1 General
- 15.2 Preventive maintenance
- 15.3 Personnel
- 15.4 Maintenance procedures
- 15.5 Maintenance work areas / special tools
- 15.6 Performance testing of fire vehicles
- 15.7 Rescue equipment requirements
- 15.8 Maintenance documentation
- 15.9 Maintenance record keeping
- 15.10 Protective clothing

**16. Leadership in the Fire Service**

- 16.1 Introduction
- 16.2 Nature
- 16.3 Leadership style
- 16.4 Qualities of leadership
- 16.5 Principles of leadership

**17. Emergency Management**

- 17.1 Legal aspects of aviation emergency management
- 17.2 Aircraft accident investigation
- 17.3 Psychological impact of major disasters
- 17.4 Airport Emergency Preparedness
- 17.5 Post aviation accident management

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**18. Budget for ARFFS**

18.1 Introduction

18.2 Budget formulation, implementation, monitoring and evaluation

**19. Planning of Airport Water Supply**

19.1 Water supply source and arrangements

19.2 Pumping facilities, water distribution and arrangements

19.3 Fuel farm and associated facilities

19.4 Operation, maintenance and testing of firefighting facilities

**20. Airport Certification Regulation**

20.1 Airport Certificate

20.2 Aerodrome manual

20.3 Obligation of the Airport Operator

20.4 Exemptions

20.5 ICAO Requirement on Aerodrome Certification

20.6 Aerodrome Certification Requirements in Nepal

20.7 Surveillance, audit and inspection of aerodromes for the certification

**21. Recent international trends and technologies in aviation firefighting**

द्वितीय पत्रबाट निम्नानुसार प्रश्न सोधिनेछ :

द्वितीय पत्र					
विषय	खण्ड	अङ्कभार	परीक्षा प्रणाली		प्रश्न संख्या X अङ्क
सेवा सम्बन्धी	(क)	६०	विषयगत	समस्या समाधानमूलक प्रश्न	३ प्रश्न X २० अङ्क
	(ख)	४०		सैद्धान्तिक-तर्कयुक्त र विश्लेषणात्मक प्रश्न	१ प्रश्न X १५ अङ्क
				व्यावसायिक योजना/मामिला विश्लेषण सम्बन्धी प्रश्न	१ प्रश्न X २५ अङ्क
जम्मा		१००			