

नेपाल नागरिक उड्डयन प्राधिकरण
प्राबिधिक सेवा, एयर ट्राफिक सर्भिसेज समूह, नवौं तह, प्रबन्धक पदको खुला/आन्तरिक प्रतियोगितात्मक लिखित
परीक्षाको पाठ्यक्रम

द्वितीय पत्र : सेवा सम्बन्धी

खण्ड (क) - ५० अङ्क

1. **Rules of the Air (CAR 2)**
 - 1.1. Definitions, Applicability of the Rules of the Air, General Rules, Visual Flight Rules, Instrument Flight Rules, Signals: Distress and Urgency Signals, Signals for Aerodrome Traffic, principles to be observed by States during interception, Tables of Cruising Levels, Unlawful interference, Remotely piloted aircraft systems, Unmanned free balloons
2. **Air Traffic Services:**
 - 2.1. Definitions, General provisions related to Air Traffic Services
 - 2.2. Air Traffic Control Service, Flight Information Service, Alerting Service, Air Traffic Services Requirements for Communications, Air Traffic Services Requirements for Information, Appendices
3. **Air Traffic Management (Doc. 4444)**
 - 3.1. ATS System Capacity and Air Traffic Flow Management, General provision for ATS, Separation Methods and Minima, Separation in the Vicinity of Aerodrome, Procedures for Aerodrome Control Service
 - 3.2. ATM Contingency plan
4. **Aeronautical Telecommunication (CAR-10, Communication Procedures including those with PANS status)**
 - 4.1 Definitions; Aeronautical mobile service, Radiotelephony procedures, distress and urgency radiotelephony communication procedures, communications related to acts of unlawful interference, Aeronautical broadcasting service
5. **Aeronautical Information Service**
 - 5.1. Definitions and general provisions, State Responsibilities, AIS Responsibilities and Functions, Exchange of Aeronautical Data and Aeronautical Information, Aeronautical Information Products and Services, Aeronautical Information Updates Scope of aeronautical data and aeronautical information
 - 5.2. Roadmap for the transition from AIS to AIM
6. **Search and Rescue**
 - 6.1. Definitions, Organization, Cooperation, Preparatory Measures, Operating Procedures, SAR Signals
7. **Altimetry**
 - 7.1. Altimeter, Pressure and Density Heights, Heights, Elevation, Altitude and Flights Levels, Transition Altitude, Transition Level and Transition Layer, Pressure Datum Effect of Pressure and Altitude
8. **CNS/ATM Systems**
 - 8.1. Communications, Navigation, Surveillance/Air Traffic Management System introduction, evolution of CNS System and its current status in Nepal
 - 8.2. PBN Manual (Doc. 9613): Airspace concept
 - Area Navigation and Required Navigation Performance
 - Performance Based Navigation - Infrastructure, Specification and Application

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9. Safety Management (CAR-19)

- 9.1. Definitions, Applicability
- 9.2. State Safety Management Responsibilities
- 9.3. Safety Management System
- 9.4. Safety data and safety information collection, analysis, protection, sharing and exchange

10. ATC Personnel Licensing/Rating

- 10.1. Introduction
- 10.2. Requirements for the issuance of certificate/License/Ratings
- 10.3. Medical Assessment (Ref.Doc. Manual of Standards for Licensing/Rating of Air Traffic Control Personnel)

11. Air Traffic Services Planning (Doc 9426)

- 11.1. Factors affecting Air Traffic Services planning
- 11.2. Mixed IFR/VFR operations
- 11.3. Facilities required by ATS
- 11.4. Development of an ATS Plan
- 11.5. Airspace Restrictions and Reservations
- 11.6. ATC capacity
- 11.7. Determination of Separation Minima
- 11.8. ATS Evaluation
- 11.9. Airspace sectorization
- 11.10. Application of Automation in Air Traffic Services
- 11.11. ATS Facility Administration and Management

खण्ड (ख) - ५० अङ्क

12. Meteorology

- 12.1. Atmosphere, Wind, Temperature & Pressure, Fog, Mist, Haze, Smoke, Dust, Etc., Cloud types and their characteristics, Precipitation and its types, Monsoon and its variation within Nepal, Jet Stream and Clear Air Turbulence, METAR, TAF, SPECI

13. Air Navigation

- 13.1. Methods of Navigation, Earth, Charts, Wind Triangles, Simple Problems on Time, Distance, Speed, Wind, TAS etc., Vector and Density, Radio aids to air navigation

14. Theory of Flight

- 14.1. Types of aircraft and its classification; Bernoulli's principle and application to flight; Control surfaces; Forces acting on Airfoil (lift, weight, thrust and drag)
- 14.2. Primary Control Surfaces (elevator, aileron and rudder) Secondary Control Surfaces (tabs, spoilers) and Lift augmentation system (flaps, slats, slots), Types of aircraft engines, Primary Flight Instruments and their Functions (Airspeed Indicator, Altimeter, Altitude Indicator, Heading Indicator/Directional Gyro, Turn Indicator and Vertical Speed Indicator), Electronic Flight Instrument System (EFIS), Glass Cockpit (PFD, MFD)
- 14.3. Effects of temperature/pressure on airplane performance; CG and its effects; Aircraft pressurization, Autopilot System and Flight Management System

15. Aviation Security

- 15.1. Definitions, General Principles, Organization, Preventive Security Measures, Management of Response to Acts of Unlawful Interference

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16. Aircraft Accident & incident investigation

16.1. Definitions, Applicability, General, Notification, Investigation, Organization and Conduct of the Investigation, Final Report, ADREP Reporting, Accident Prevention Measures

17. Aerodrome (CAR 14)

17.1. ACN, PCN, pavement strength of aircraft movement area, taxiway, runway
17.2. Aerodrome Certification Process
17.3. Visual aids for navigation

18. Airport Economics Manual (DOC 9562)

18.1. ICAO's Policies on Charges and States' Responsibilities
18.2. Ownership, control and governance of airports
18.3. Airport economic and financial management
18.4. The process of setting airport charges
18.5. Development and management of non-aeronautical activities
18.6. Financing airport infrastructure

19. ICAO's Policies on charges for Airports and Air Navigation Services (DOC 9082)

19.1. General
19.2. ICAO's policies on airport charges
19.3. ICAO's policies on charges for air navigation services

20. Air Transport (DOC 9626)

20.1. Key Issues of National Regulatory Processes and Structure, Bilateral Regulation, Major Air Transport Industry Organizations (ACI, CANSO, IATA), Basic Market Access, Air Passengers, Airport Related Matters

21. Miscellaneous

21.1. Convention on International Civil Aviation, ICAO SARPs implementation in Nepal
21.2. Aerodrome Rescue and Fire Fighting Services: Level of protection
21.3. Safety Reporting Procedure Directive
21.4. Fundamental Human Factors Concepts, Human Factor Issues in Air Traffic Control (Human Factors Training Manual, Doc. 9683)
21.5. Universal Safety Oversight Audit Program (USOAP)
21.6. Airport Emergency Plan (AEP) and Its Implementation
21.7. Cyber security in aviation, Cyber security threats and potential impacts

द्वितीय पत्रबाट निम्नानुसार प्रश्न सोधिनेछ :

द्वितीय पत्र (विषयगत)				
विषय	खण्ड	अङ्कभार	तर्कयुक्त विश्लेषणात्मक प्रश्न	समस्या समाधानमूलक प्रश्न
सेवा सम्बन्धी	(क)	५०	३ प्रश्न X १० अङ्क = ३०	१ प्रश्न X २० अङ्क = २०
	(ख)	५०	३ प्रश्न X १० अङ्क = ३०	१ प्रश्न X २० अङ्क = २०
जम्मा		१००	६ प्रश्न X १० अङ्क = ६०	२ प्रश्न X २० अङ्क = ४०