

नेपाल नागरिक उड्डयन प्राधिकरण
प्राविधिक सेवा, एयर ट्राफिक सर्भिसेस समूह, आठौं तह, उपप्रबन्धक 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
- 1.2 Signals: Distress and urgency signals, signals for aerodrome traffic, principles to be observed by States during interception, interception of civil aircraft
- 1.3 Tables of cruising levels, unlawful interference

2. **Air Traffic Services (CAR-11)**

- 2.1 Definitions
- 2.2 General: Objectives of ATS; Divisions of the ATS; Determination of the need for ATS; Designation of the portions of the airspace and controlled aerodromes where ATS will be provided; Classification of airspaces; Establishment and designation of the units providing ATS; Coordination between meteorological and air traffic services authorities, Coordination between aeronautical information services and air traffic services authorities, Specifications for flight information regions, control areas and control zones; Identification of ATS units and airspaces; Minimum flight altitudes; Service to aircraft in the event of emergency; In-flight contingencies; Interception of civil aircraft; Fatigue Management (Appendix-5, Appendix-6)
- 2.3 Air traffic control service; Flight information service; Alerting Service
- 2.4 Air Traffic Services requirements for communications,
- 2.5 Air Traffic Services requirements for Information; Appendix-4-ATS airspace classes - services provided and flight requirements

3. **Air Traffic Management**

- 3.1 General provision for ATS; Separation methods and minima; Separation in the vicinity of aerodrome; Procedures for aerodrome control service (Doc. 4444)

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 (CAR-15)**

- 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

6. **Search and Rescue (CAR-12)**

- 6.1 Definitions, Organization, Cooperation
- 6.2 Preparatory measures and Operating procedures

7. **Safety Management (CAR-19)**

- 7.1 Definitions, Applicability

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- 7.2 State Safety Management Responsibilities
 - 7.3 Safety Management System
 - 7.4 Safety data and safety information collection, analysis, protection, sharing and exchange
8. **Safety Reporting Procedure Directive**
9. **Licensing/Rating of Air Traffic Control Personnel**
- 9.1 Introduction
 - 9.2 Requirements for the issuance of certificate/License/Ratings
 - 9.3 Medical Assessment (Manual of Standards for Licensing/Rating of Air Traffic Control Personnel)
10. **CNS/ATM Systems**
- 10.1 Communications, Navigation, Surveillance/ Air Traffic Management System: Introduction
 - 10.2 Existing CNS/ATM System in Nepal
11. **Aerodrome (CAR 14)**
- 11.1 ACN, PCN, pavement strength of aircraft movement area, taxiway, runway
 - 11.2 Aerodrome Certification Process
 - 11.3 Visual aids for navigation
- खण्ड (ख) - ५० अङ्क**
12. **Altimetry**
- 12.1. Altimeter, Pressure and Density heights, Heights, Elevation, Altitude and Flights levels, Transition altitude, Transition level and Transition layer
 - 12.2. Pressure datum effect of pressure and altitude
13. **Meteorology**
- 13.1. Atmosphere, Wind, Temperature and Pressure, Fog, Mist, Haze, Smoke, Dust
 - 13.2. Cloud types and their characteristics
 - 13.3. Precipitation and its types
 - 13.4. Monsoon and its variation within Nepal
 - 13.5. Jet Stream and Clear Air Turbulence
 - 13.6. METAR, TAF, SPECI
14. **Air Navigation**
- 14.1. Methods of Navigation, Earth, Charts, Wind triangles
 - 14.2. Simple problems on time, distance, speed, wind, TAS, Vector and Density
 - 14.3. Radio aids to Air navigation

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15. Theory of Flight

- 15.1. Types of aircraft and its classification; Bernoulli's principle and application to flight; Control surfaces; Forces acting on Airfoil (lift, weight, thrust and drag)
- 15.2. 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)
- 15.3. Effects of temperature/pressure on airplane performance; CG and its effects; Aircraft pressurization, Concept of Autopilot System and Flight Management system

16. Aviation Security

- 16.1. General principles, Organization, Preventive security measures; Management of response to act unlawful interference

17. Aircraft Accident and Incident Investigation

- 17.1. Applicability, General, Objective of the Investigation, Notification, Investigation, Organization and Conduct of the Investigation, Final Report, ADREP Reporting
- 17.2. Accident Prevention Measures

18. Miscellaneous

- 18.1. Convention on International Civil Aviation,
- 18.2. Aerodrome Rescue and Fire Fighting Services: Level of protection
- 18.3. Fundamental Human Factors Concepts, Human Factor Issues in Air Traffic Control (Human Factors Training Manual, Doc. 9683)
- 18.4. Cyber security in aviation
- 18.5. Universal Safety Oversight Audit Program (USOAP)
- 18.6. Airport Emergency Plan (AEP), its Implementation and role of ATS

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