

लोक सेवा आयोग
नेपाल इन्जिनियरिङ्ग सेवा, एरोनोटिकल इन्जिनियरिङ्ग समूह, राजपत्रांकित द्वितीय श्रेणीको खुला र आन्तरिक
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

द्वितीय पत्र :- सेवा सम्बन्धी प्राविधिक विषय

- 1. ICAO Annexes to the convention on International Civil Aviation**
- 2. International Civil Aviation System**
 - 2.1 International Civil Aviation Organization (ICAO)
 - 2.2 International Air Transportation Association (IATA)
 - 2.3 ICAO Universal Safety Oversight Audit Programme (IUSOAP)
 - 2.4 ICAO Universal Security Audit Programme (IUSAP)
- 3. Air Transportation**
 - 3.1 Air Operator Licensing requirements, application & inspection.
 - 3.2 Air Service Agreement (ASA)
 - 3.3 Air Carrier Liability
 - 3.4 Lease & Charter Operation
 - 3.5 Aviation Insurance Policy
- 4. Airport Operation**
 - 4.1 Airport Planning & Development
 - 4.2 Aerodrome Certification
 - 4.3 Operation of remote Area in Nepal
- 5. Air Navigation System and Planning**
 - 5.1 Air Space Management
 - 5.2 Search & Rescue Services
 - 5.3 Meteorological Services for Civil Aviation
 - 5.4 Performance based Navigation(PBN) & its application
- 6. State Safety Programme (SSP)**
 - 6.1 SSP- Development & Implementation
 - 6.2 The role of SSP in SMS Implementation
- 7. Safety Management System (SMS)**
 - 7.1 ICAO Safety Management Requirements
 - 7.2 Safety Management System Planning, Operation & Implementation
- 8. Aircraft Accident & Incident Investigation**
 - 8.1 Organization & Planning
 - 8.2 Navigation of Accidents & Incidents
 - 8.3 Investigation Procedures
 - 8.4 Accident Prevention Measures

9. Aerodynamics and Flight Control

- 9.1 International Standard Atmosphere (ISA)
- 9.2 Indicated airspeed and true airspeed
- 9.3 Concept of different types of airfoil, different types of wing, aspect ratio, camber
- 9.4 Laminar and Turbulent flow, Boundary layer, Vortex generator, angle of attack
- 9.5 Three axis of rotation
- 9.6 Subsonic, Transonic and supersonic speed and Bernoulli equation

10. Aircraft system

- 10.1 Principles and function of hydraulic system
- 10.2 Principle and function of pneumatic system
- 10.3 Air conditioning system and pressurization system
- 10.4 De- icing and anti- icing system
- 10.5 Basic principle of fuel and oxygen system

11. Aircraft Performance

- 11.1 Relation of Temperature, pressure, density with relation to altitude
- 11.2 Rate of climb, descent, approach and landing
- 11.3 Center of gravity, center of pressure, flow separation, vector diagram of lift, drag and total reaction
- 11.4 Concept of airplane STALL and its warning mechanism

12. Gas Turbine Engine

- 12.1 General Turbine engine theory
- 12.2 Compressor principles and types of compressor mainly used in engine
- 12.3 Compressor surge and Bleed valve
- 12.4 Principles of Diffuser, Guide vanes, Combustion chambers and types of fuel nozzles
- 12.5 Basic engine Oil system, lubrication system and engine fuel system
- 12.6 Basic principles of Engine thrust reverser system

13. Avionics System

- 13.1 Aircraft Internal batteries
- 13.2 Principles and purpose of DC generators, simple alternators, constant speed drives voltage Regulators
- 13.3 Basic flight instruments
- 13.4 Location and purpose of Radio communication
- 13.5 General principles of HF, VHF, ELT, ADF, VOR, ILS and DME
- 13.6 General principles of Transponders, radio altimeter, GPS, TCAS, EGPWS and RVSM