

Nepal Airlines Corporation
Syllabus for Superintendent Operation Engineer, Grade IX
Aviation Service, Aviation Technical Group
Internal Competition

Stages and Procedure of Examination System

First Stage: Written Examination - Full Marks 200

Weightage Allocation and Marks Distribution

S.No.	Paper	Subject	Time	Full Mark	Section	Marks
1	I	Institutional Awareness and Management	3 Hrs.	100	Section "A" Institutional Awareness	Long Answer 4x10=40
					Section "B" Management	Long Answer 6x10=60
2	II	Service Related	45 Min.	100	Multiple Choice Questions	50x2=100

Second Stage - Interview

Individual Interview

Full Marks - 30

द्रष्टव्य :

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी वा दुबै हुनेछ ।
- प्रथम, द्वितीय र तृतीयपत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
- लिखित परीक्षामा यथासम्भव पाठ्यक्रमका सबै एकाइबाट प्रश्नहरू सोधिनेछ ।
- वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
- विषयगत प्रश्नमा प्रत्येक पत्र/विषयका प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तर पुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नहरूको उत्तर सोही खण्डका उत्तर पुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम तथा नीतिहरू परीक्षाको मितिभन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्भन्नु पर्दछ ।
- प्रथम चरणको परीक्षाबाट छनौट भएका उम्मेदवारलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।
- यस भन्दा अगाडि लागू भएका माथि उल्लिखित सेवा/समूहको पाठ्यक्रम खारेज गरिएको छ ।
- पाठ्यक्रम लागू मिति :- २०७९।०५।०४

Paper I

Subject: Institutional Awareness and Management

Full Marks: 100

Time: 3hrs.

खण्ड (क) :- संस्थागत ज्ञान (४० अङ्क)

१. संस्थागत ज्ञान (२x१०=२० अङ्क)

- १.१ नेपाल वायुसेवा निगमको स्थापनाको उद्देश्य, संगठनात्मक संरचना, कार्यक्षेत्र, SWOT Analysis
- १.२ नेपाल वायुसेवा निगमको पुनर्संरचनाको आवश्यकता र औचित्य
- १.३ नेपाल वायुसेवा निगमले प्रवाह गर्ने सेवाको गुणस्तर, गुणस्तर नियन्त्रण तथा सेवाग्राहीको सन्तुष्टि तथा सेवाको मूल्य निर्धारण सम्बन्धी व्यवस्था
- १.४ अन्य वायुसेवाहरू सँगको प्रतिस्पर्धा, चुनौती तथा भावी कार्यदिशा
- १.५ अन्तर्राष्ट्रिय नागरिक उड्डयन संगठनको स्थापना, लक्ष्य तथा उद्देश्य
- १.६ नेपाल नागरिक उड्डयन प्राधिकरणको स्थापना, लक्ष्य, उद्देश्य, कार्यहरू र नियमनकारी भूमिका
- १.७ नेपालमा सार्वजनिक संस्थानको आवश्यकता, उद्देश्य, स्वायत्तता, उत्तरदायित्व, समस्या र चुनौती
- १.८ संस्थागत सुशासनको अवधारणा र नेपाल वायुसेवा निगमको संस्थागत सुशासनको अवस्था
- १.९ आवधिक योजनामा हवाई क्षेत्र
- १.१० नेपाल वायुसेवा निगमको नेपाल सरकार तथा सम्बद्ध निकायहरूसँगको सम्बन्ध र समन्वय

२. संविधान र सम्बद्ध कानूनहरू (२x१०=२० अङ्क)

- २.१ नेपालको संबैधानिक विकासक्रम र वर्तमान संविधान
- २.२ नेपाल वायुसेवा निगम ऐन, २०१९
- २.३ नेपाल वायुसेवा निगमका कर्मचारीहरूको सेवा, शर्त सम्बन्धी विनियमावली र आर्थिक विनियमावली
- २.४ सार्वजनिक खरिद ऐन, २०६३ र सार्वजनिक खरिद नियमावली २०६४
- २.५ भ्रष्टाचार निवारण ऐन, २०५९
- २.६ सूचनाको हक सम्बन्धी ऐन, २०६४ र सूचनाको हक सम्बन्धी नियमावली, २०६५
- २.७ आवश्यक सेवा सञ्चालन ऐन, २०१४
- २.८ सुशासन (व्यवस्थापन तथा सञ्चालन) ऐन, २०६४ र सुशासन (व्यवस्थापन तथा सञ्चालन) नियमावली, २०६५
- २.९ उपभोक्त संरक्षण ऐन, २०७५

खण्ड (ख) :- व्यवस्थापन (६० अङ्क)

3. General Management (2x10=20 Marks)

- 3.1 Application of public management for developing professionalism - knowledge management, time management, technology management, change management, team management, resource management, productivity management, conflict management, disaster management, stress management, strategic management
- 3.2 Human resource management and its dimensions
- 3.3 Concept and principles of leadership and motivation, organization behaviour, group dynamics, work culture

- 3.4 Team building and synergy creation
- 3.5 Problem solving and decision-making, dialogue and negotiation skills
- 3.6 Communication skill and interpersonal relation
- 3.7 Management of staff performance, staff development techniques Coaching/Counseling/
Mentoring
- 3.8 Handling complains and grievances
- 3.9 Planning and control system
- 3.10 Unionism and labour relation management
- 3.11 Total Quality Management (TQM)

4. Project Management (1x10=10 Marks)

- 4.1 Concept of project planning, management and processes
- 4.2 Recent project planning approaches
- 4.3 Project cycle
- 4.4 Linkage between plans, programs and projects
- 4.5 project feasibility study-demand/need forecasting and analysis
- 4.6 Project negotiation
- 4.7 Project organization
- 4.8 Project implementation plan (PERT, CPM, Network diagram, Gantt chart)
- 4.9 Roles and responsibilities of a project manager
- 4.10 Procurement and contract management-goods, services and works
- 4.11 Project monitoring and evaluation techniques
- 4.12 Project operation and maintenance, Project proposal preparation

5. Marketing Management (1x10=10 Marks)

- 5.1 Role of marketing in service industries
- 5.2 Marketing strategies - product/service strategies
- 5.3 Pricing, placing and promotion strategies
- 5.4 Demand supply forecasting, market survey, pricing decisions, promotion decisions, market
leader
- 5.5 Market competition, marketing processes and strategies of NAC
- 5.6 Marketing management issues and challenges of NAC

6. Risk Management (1x10=10 Marks)

- 6.1 Concept, identification and measurement of risk
- 6.2 Types of risks (Business, Project, System, Market)
- 6.3 Risk analysis and risk factors
- 6.4 Techniques of managing risks
- 6.5 Emergency management

7. Contemporary Issues (1x10=10 Marks)

- 7.1 Current organization and management issues and existing challenges of NAC
- 7.2 General organization structure of Nepal Airlines Corporation and need of restructuring
- 7.3 Outsource principle and current trend

7.4 Voluntary retirement schemes, employee layoff and its impact

7.5 Inter organizational relations

7.6 Collective decision processing

Paper II

Subject: Service Related

Full Marks: 100 (Multiple Choice Questions 50x2)

Time: 45 Minutes

1. Human Factors (10x2=20 Marks)

- 1.1. General; Need to take Human Factor into account, incidents attributable to human
- 1.2. factor/human error, Murphy's law.
- 1.3. Human factor performance and limitations, vision, hearing, information processing; attention & perception; memory, claustrophobia & fear of heights.
- 1.4. Social psychology, social environment, responsibility individual & group; motivation and de-motivation, peer pressure, culture issues, team working, management, supervision and leadership.
- 1.5. Factors affecting performance: Fitness/health, stress:-domestic and work related, time pressures and deadlines, workload, overload & under load, sleep and fatigue, shift work, alcohol, medication, drug abuse.
- 1.6. Physical environment: Noise, fumes, illumination, climate & temperature, motion and vibration, confined spaces, working environment.
- 1.7. Tasks: Physical work, repetitive tasks, visual inspection, complex systems
- 1.8. Communication: within and between team , work logging and recording, keeping update, currency, dissemination of information.
- 1.9. Human error: understanding human error, Error models & theories, Types of error in maintenance tasks: implications of error, avoiding and managing errors.
- 1.10. Hazards in the workplaces
- 1.11. Recognizing and avoiding hazards
- 1.12. Dealing with emergencies
- 1.13. Summary: Dirty dozen aviation errors (put safety first and minimize 12 common causes of mistakes in the aviation workplace)
- 1.14. Hazard identification and Risk Management
- 1.15. Safety Management System

2. Uses of operational applicable software applications (5x2=10 Marks)

- 2.1. Performance software
- 2.2. Takeoff and landing optimization (TLO)
- 2.3. Operational flight path (OFP)
- 2.4. In-flight performance (IFP)
- 2.5. Flight planning (FLIP)
- 2.6. Aircraft performance monitoring (APM)
- 2.7. Flight procedure design software

3. Full knowledge and computation in relation to a specific phase of flight (10x2=20 Marks)

- 3.1. International standard atmosphere
- 3.2. Operating speeds
- 3.3. Takeoff: Takeoff speeds, Runway limitations, Climb and obstacle limitations, Factors affecting takeoff, RTOW determination
- 3.4. Climb: Climb speed, Climb gradient, Rate of climb

- 3.5. En-route: Engine Failure, In flight cabin pressurization failure,
- 3.6. Cruise: Speed optimization, Altitude optimization
- 3.7. Holding: Optimum holding speed
- 3.8. Descent: Thrust setting, Descent speeds
- 3.9. Approach and Landing: Operating landing speeds, Actual landing distance, Go-around performance requirements

4. Airport and route studies (3x2=6 Marks)

- 4.1 Airport Studies
- 4.2 Route studies

5. Weight and Balance (7x2=14 Marks)

- 5.1 Weight definition and limitations
- 5.2 Principle of aircraft weight and balance
- 5.3 Weight and Balance manual description and use
- 5.4 Load and trim sheet principles and computation
- 5.5 Determine the operational margins for the CG limits and define the operational CG limits
- 5.6 Advanced operation considerations: last minute changes, CG optimization
- 5.7 Prepare AHM 560/565 EDP Data

6. Aircraft System Knowledge (8x2=16 Marks)

- 6.1 Fly by wire aircraft
- 6.2 Electrical system
- 6.3 Hydraulic system
- 6.4 Flight controls
- 6.5 Braking systems
- 6.6 Fuel system
- 6.7 Power plant
- 6.8 Oxygen system
- 6.9 Safety equipments

7. Aircraft Limitations (5x2=10 Marks)

- 7.1 Flight limitations
- 7.2 Limit load factors
- 7.3 Maximum speeds
- 7.4 Minimum control speeds
- 7.5 Maximum structural weights
- 7.8 Aircraft weight definitions
- 7.9 Minimum structured weight
- 7.10 Environmental envelope
- 7.11 Engine limitations

8. Fuel Planning and Management (2x2=4 Marks)

- 8.1 Fuel policy
- 8.2 Fuel tinkering