

**Nepal Airlines Corporation  
Human Resources Department**

OPEN COMPETITION  
Syllabus for Senior Co-Pilot, Grade VIIA

**A. Stages and Procedures of Examination System**

Phases	Subject	Marks	Examination System	No. of Questions X Marks	Time
First 70%	Written Exam	Full Mark 100 Pass Mark 40	Objective Questions (50x2=100)		1 hr.
Second 10%	Aptitude Test	Full Mark 20	1. Mental Abilities	2x4=8	20 Mins.
			2. Situational Judgment	2x2=4	
			3. Memory	2x1=2	
			4. Course of Action 5. Communication Skill	1x2=2 2x2=4	
Third 20%	Interview	20	Oral (only of medically fit candidates)		

**1. Airframe and Systems.**

**12 Marks (6 Questions)**

- a) Airfoils
- b) Flight Controls, Types and uses
- c) Operational Procedures and limitations of power plants
- d) Principle of operation of movable airfoils;
- e) Pitch, yaw, roll

**2. Aerodynamics. (Theory of flight)**

**8 Marks (4 Questions)**

**3. Aircraft Performance.**

**8 Marks (4 Questions)**

- a) Factors affecting aircraft performance/C.G
- b) Use of various performance charts.
- c) Limitations of aircraft operations.

**4. Flight planning.**

**6 Marks (3 Questions)**

- a) Selection of routes (IFR/VFR)
- b) Necessity of obtaining weather briefing.

**5. Aircraft instrument.**

**6 Marks (3 Questions)**

- a) Basic flight instruments.
- b) Basic navigation instruments.
- c) Basic engine instruments.

**6. Air navigation.**

**6 Marks (3 Questions)**

- a) Great circle, small circles, rhumb lines.
- b) Latitudes, longitudes.
- c) Directions (Compass-true and magnetic, definitions, their interrelationships and use)
- d) Magnetic compass.

7. **Charts.** 4 Marks (2 Questions)
8. **Meteorology.** 8 Marks (4 Questions)
- a) Atmosphere and physical process.
  - b) Humidity and precipitation.
  - c) Clouds.
  - d) Motion of atmosphere (Mountain waves, wind shears, local winds, pressure gradient)
  - e) Surface weather (Fog, mist, haze, snow)
  - f) Air mass (Fronts, turbulence, thunderstorms, squall lines)
  - g) Weather observations.
9. **Human performance and limitations.** 4 Marks (2 Questions)
- a) Hypoxia, hyperventilation, disorientation.
  - b) Visual illusions.
  - c) Fatigue flying and health (alcohol, smoking, drugs and medication)
10. **Operations Procedures and rules of the air.** 12 Marks (6 Questions)
- a) Definitions as per ICAO Annex 6.
  - b) Flight operations.
  - c) Aerodrome operating minima.
  - d) Minimum flight altitude.
  - e) Requirement for alternate aerodrome.
  - f) Oxygen requirement.
  - g) Duties and responsibilities of PIC and Co-Pilot.
  - h) Equipment's required for aircraft on all flights.
  - i) Fuel requirements.
  - j) Safe carriage of dangerous goods.
  - k) Flight safety (use of seat belts and shoulder harness, wake turbulence hazard)
11. **Rules and regulations for CPL holders.** 4 Marks (2 Questions)
- a) Necessity, requirements, privileges, responsibility and limitations.
  - b) Logging of flight time.
  - c) Maintaining and renewal of license.
12. **Basic requirements of flying procedures.** 4 Marks (2 Questions)
- a) Basic instrument environment, power-primary and supporting instruments).
  - b) Prevention of disorientation.
13. **Attitude flying.** 6 Marks (3 Questions)
- a) Flying with reference to the instruments.
  - b) Establishing co-ordinated turns climbs and descends at various speeds and power settings.
  - c) Relation between speed, power and attitude of aircraft.
  - d) Definitions of standard rates of turns.
14. **Navigation.** 6 Marks (3 Questions)
- a) VOR, DME, GPS, NDP, ILS, transponder, radio waves (frequency).

**15. Emergency procedures.**

**6 Marks (3 Questions)**

- a) Choice of alternates.
- b) Communication failure.
- c) Power plant failure
- d) ELT
- e) Unusual attitudes.

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