

Nepal Airlines Corporation

Syllabus for Senior Ground Equipment Operator, Grade V Aircraft Maintenance Services Ground Equipment Group- Operator sub group Open Competition

A. Stages and Procedure of Examination System:

चरण	विषय	अंकभार	परीक्षा प्रणाली	प्रश्न संख्या X अङ्क	समय
प्रथम ८०%	लेखन शिप सेवा सम्बन्धी	१००	Multiple Choice Questions (वस्तुगत)	५० X २ = १००	४५ मिनेट
द्वितीय २०%	अन्तरवार्ता	२०	मौखिक		

All questions will be in English

Full Marks: 100

Pass Marks: 40

B. Course Content

1. Ground Support Equipment (GSE) Basics:

10 Questions

- 1.1 Definitions and specific aviation Ground Handling terms. Such as GSP, CAAN, IATA, ISAGO, ICAO, SMS, DGR, ULD, Pushback, PAX, etc.
- 1.2 Role of GSEO in the Ground Handling Services
- 1.3 Introduction of GSE and its application
- 1.4 Introduction of GSE Operator
- 1.5 Difference between GSE and other Automotive Vehicles
- 1.6 GSE Types and applications
- 1.7 Basic aircraft parts. NLG, MLG wings, Fuselage, Tail, service ports, Pitot, Tow pin, aircraft servicing points, etc.
- 1.8 Introduction to Airport Components: Apron, Ramp, Boarding Gate, Aircraft Parking Bay, Taxiway, Runway, Airside, Landside, Terminal Building, Hangar, Immigration, Custom, Security channel, etc.

2. Operating Principles of GSE

10 Questions

- 2.1 GSE Basic operation principles (power source and power conversion efficiency)
- 2.2 Prime movers of the GSE Fleets
- 2.3 Basics of Pneumatics and Hydraulics in the GSE
- 2.4 Components, parts and assemblies of the GSE
- 2.5 Basics of Manual/Automatic / Hydrostatic Transmission in the GSE and Vehicles.
- 2.6 Conventional and Towbarless Pushback/Towing of aircraft

3. Road/Ramp Driving Safety:

20 Questions

- 3.1 Hand Signals used during the road and ramp driving/operation.

- 3.2 Accident Prevention and Safety Precautions.
- 3.3 Basic GSE recovery and Evacuation during emergency
- 3.4 Radio Telephonic communications/Standard Wordings
- 3.5 Safety devices: Fire bottle, ear muff/ ear plug/ Fluorescent jacket, safety boots, hand gloves, eye goggles, etc.
- 3.6 Fire Fighting; Class of fires, Fire Triangle, Fire principles, Fire Fighting methods
Fire Hazards and principles of accident prevention, Suppression of fire and fire fighting equipment.
- 3.7 Speed Limits in the Air Side and Land side
- 3.8 Awareness of different situations and possible incursions
- 3.9 FOD: Foreign Object Debris/ Foreign Object Damage (Concept)
- 3.10 Airside Signs and Signals/Markings
- 3.11 Walk Around Inspection (Introduction and application)
- 3.12 DGR: DGR identification labels (General concept)
- 3.13 Severe Weather precautions during driving/operation
- 3.14 Spillage and Leakage from GSE
- 3.15 Prop wash, Jet Blast of the aircraft engines (general concept)
- 3.16 Aircraft Inlet and exhaust hazard Areas (General idea)

4. GSE Operating Rules/Regulations:

10 Questions

- 4.1 Aircraft Staging Area (General idea for movement)
- 4.2 Aircraft servicing procedures
- 4.3 Equipment specific procedures
- 4.4 Fault/ Occurrence reporting of GSE and events
- 4.5 Equipment capabilities and service limits (general idea)
- 4.6 Vehicular Traffic regulations (Basic idea)
- 4.7 Airside Tarmac discipline- Do's and Don't's

5. GSE Operations Management and Category Ratings:

10 Questions

- 5.1 Turnaround Time of aircraft (basic concept)
- 5.2 Equipment Category/Classification/Authorization System (general knowledge)
- 5.3 CAAN Airside Driving Rules and Regulations
- 5.4 Human Factors- Perception and Application in GSE Operations/GSE maintenance
- 5.5 Aviation Security: Introduction and basic requirements
- 5.6 Concept of Sensitivity of operation and Associated Risks in the GSE operation
- 5.7 Road driving license and ramp GSE operating authorization

6. GSE Operation Procedures:

10 Questions

- 6.1 General Precautions and Safety Measures
- 6.2 Daily Inspection Check Points of GSEs
- 6.3 Incident, Accident and Irregularities (IAI)
- 6.4 IAI Reporting (concept and necessity)

- 6.5 Pre Operational Procedures for GSE in the airport
- 6.6 Pre Docking procedures for GSE on the aircraft
- 6.7 Docking procedures for GSE (General idea/concept)
- 6.8 Aircraft movement procedures and precautions (Concept and idea)

7. Safety Management System (SMS) 05 Questions

- 7.1 Its Concept, application and advantages in respect to GSE Operations

8. Security Management System (SeMS) 05 Questions

- 8.1 Its Concept, application and advantages in respect to GSE Operations

9. Quality Management System (QMS) 05 Questions

- 9.1 Its Concept, application and advantages in respect to GSE Operations

10. GSE Maintenance Management System 15 Questions

- 10.1 Its Concept, application and advantages in respect to GSE Maintenance
- 10.2 Automotive systems: Diesel/Petrol engines, basic components, braking system, fuel system, suspension system, cooling system, lubrication system, steering system, exhaust system, electrical system, fuel injection system, ignition system, transmission system, safety features and safety system, etc.
- 10.3 Basic knowledge of heavy equipment: Loader, Bulldozer, Grader, Excavator, Roller, Crane, Forklift, etc. and maintenance concept.
- 10.4 Estimating and costing during maintenance: profitability concept, break-even point, return on investment, liability, assets, fixed cost, variable cost, direct cost, indirect cost, fixed capital, working capital, depreciation,
- 10.5 Workshop Practices: basic hand tools, machine tools and types, metal joining processes (soldering, welding, brazing), fabrication.

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