

Nepal Airlines Corporation
Syllabus for Technician Grade- IV, Aircraft Maintenance Services
Group: Miscellaneous, Sub-group: Painter
(Open Competition)

A. STAGES AND PROCEDURE OF EXAMINATION

चरण	विषय	अंकभार	परीक्षा प्रणाली	प्रश्न संख्या X अङ्क	समय
प्रथम चरण ८०%	सेवा सम्बन्धी	पुर्णाङ्क ५०, उत्तिर्णाङ्क २०	Multiple Choice Questions (वस्तुगत)	५० X १ = ५०	४५ मिनेट
द्वितीय २०%	अन्तरवार्ता	२०	मौखिक		

B. COURSE CONTENT

1. Fundamentals of Art/Painting

1.1 General Characteristics and General Concept (5.0 Marks)

- a) Definition of Art
- b) Purpose of Art
- c) Scope of Art
- d) Law of Nature
- e) Medium and Materials of Art

1.2 Painting Terminologies (5.0 Marks)

- a) Rhythm and Harmony
- b) Line and Shape
- c) Light, Shade and Shadow
- d) Balance and
- e) Composition and Combination
- f) Scale, Proportion and Similarity
- g) Colour and Color Codes
- h) Dimension and Measurements
- i) Perspective and Prospective
- j) Picture, View and Drawing, Projection
- k) Technical Lettering, Hand Writing and Letter Art
- l) Art, Photograph and Drawing

1.3 Applied Art (5.0 Marks)

- a) Introduction of Applied Arts (based on graphic design)
- b) Differences between Painting and Graphic Design
- c) Popular Works in Graphic Design
- d) General Knowledge of Press, Computer and Photography
- e) Dummy, Layout and Letter Formatting, Illustration, Book Cover, Logo and Livery, Poster, Calendar, Sticker, Packaging Design and other applied arts.

1.4 Histories of Arts (5.0 Marks)

- a) Nepalese Art
- b) Basic Feature of Lichchhavi and Malla Arts
- c) Paubha and Thangka Painting
- d) Wall Painting
- e) Miniature Painting (Manuscript Painting)
- f) Modern Painting (19th Century Onwards)

2. Facility and Procedural Requirements for Industrial Painting/Arts

2.1. Metrology (Measurement Techniques) (5.0 Marks)

- a) Standard, Units of Measurement used in Engineering Practices
- b) Measuring Instruments (Construction, Types, Applications and Care)
- c) Measurements: Precision and Non-precision, Direct and Analytical
- d) For Surface Level, Surface Straightness Measurements: Spirit Level, Straight Edge, Surface Gauge, Optical Flat, Surface Plate, Interferometer, etc
- e) Graduation. (Calibration) and Reading of Measuring Instruments
- f) Error, its Types and Measurement of Errors: Flatness, Straightness, roundness, Parallelism, Cylindricity, Perpendicularity, Angularity, intersection of axes, Concentricity.

2.2. Tools and Equipment and Facility Requirements for Painting Works (5.0 Marks)

- a) Manual Tools and equipment
- b) Power driven tools and equipment
- c) Painting facility specification: minimizing pollution, health hazard, drying, dust and dirt prevention, Servicing Equipment, capabilities, etc.
- d) Painting works Preparation Facility: Surface preparation tools (sand blaster, chemical itching, scouring, etc.)
- e) Reproduction of prints: templates, stickers, standard colors, use of art, etc.
- f) Towing Equipment, Types, systems, capabilities and parameters

- g) Job safety in painting works: materials, tools, equipments used for job safety purpose in painting works

2.3. Standard Painting Procedures (5.0 Marks)

- a) Receiving requirements/Job order
- b) Arrangement of logistics and equipment
- c) Surface preparation and protection of original areas
- d) Use of standard symbols, colors, patterns for specific components
- e) Sample painting and necessary approval
- f) Final painting and preservation
- g) Finishing touch and cleaning
- h) Test for strength and quality
- i) Record keeping

3. Basic Concept of Management Systems

3.1. Production Processes and Materials Management: (4.0 Marks)

- a) Production process and productivity, time and motion study: concept and application
- b) Materials Handling (requirements for safe and efficient handling/storage procedures)
- c) Inventory Management: Meaning and Necessity for painting shop
- d) Estimating and Costing: Estimating and Costing of Jobs in painting Shop, Sheet metal shop, welding/fabrication.

3.2. Quality Management Systems (3.0 Marks)

- a) Quality Control Process: Objective and Importance, TQM
- b) Quality Management System (QMS) and its Concept, application and advantages with respect to Art and Painting works

4. Hygiene and Safety

4.1. Hygiene and Safety in the Working Environment (4.0 Marks)

- a) Industrial Environment: Health Hazards and Their Prevention in painting shop
- b) Pollution in the painting shop: Air Pollution, Vibration, Noise Pollution, etc.
- c) Chemical handling: Effects of Toxic Materials. Permissible Limits, Store of Toxic Materials.
- d) Industrial Lighting and Ventilation for carrying out jobs

4.2. Safety in the Painting/Art Shop (4.0 Marks)

- a) Electrical Accident Prevention during carrying out the jobs

- b) Safety Requirements of industrial Equipment and Processes: Machine Guarding, Operating Controls, Safeguards, Interlocks, signals and Colors, Hoisting, Loading and Handling Mechanisms, use of PPE.
- c) Personal Safety, Equipment Safety, Job Safety.
- d) Fire Protection
 - 1) Fire Hazards and principles of accident prevention
 - 2) Storage of Explosives and flammable inventories
 - 3) Fire Alarm System
 - 4) Suppression of fire and fire fighting equipments

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