



श्री कार्यरथी विभाग, भुमि छनौट निर्देशनालय
जंगी अड्डा

प्रा.उ.से. ईलेक्ट्रिकल ट्रेड "ख" श्रेणी पद (आन्तरीक) को लिखित परीक्षाको पाठ्यक्रम

समय: ३ घण्टा

पूर्णाङ्क:- १००

उत्तिर्णाङ्क- ४०

उद्देश्यहरु :

यो पाठ्यक्रम नेपाली सेनाको प्रा.उ.से. ईलेक्ट्रिकल ट्रेड "ख" श्रेणी पद (आन्तरीक) का उमेदवार छनौट परिक्षाको लागि निर्धारण गरिएको हो । प्रा.उ.से. ईलेक्ट्रिकल ट्रेड "ख" श्रेणी पद (आन्तरीक) का उमेदवार छनौट लिखित परीक्षामा सरिक हने उमेदवारहरुको पेशा सम्बन्धि बिषयलाई आधार मानि प्रश्न सोधिने छ ।

क) लिखित परीक्षाको माध्यम नेपाली/अंग्रेजी भाषा हुने छ ।

ख) निम्न पत्रहरुको पाठ्यक्रम रुपरेखा अनुसार बिषय बस्तु हुने छ ।

ग) लिखित परिक्षावाट छनौट भएको उमेदवारहरुलाई मात्र अर्को चरणको परिक्षामा सम्मिलित गराईने छ ।

घ) प्रश्न पत्र निर्माण गर्दा सम्भव भएसम्म पाठ्यक्रममा समावेश भएका सबै विषयहरुलाई समेटनु पर्ने छ ।

ड) नेपाली सेनाको तत्कालिन आवश्यकता तथा विविध परिस्थितीमा नेपाली सेना अनुकूल हुने गरी उल्लेखित विवरणहरुमा हेरफेर हुन सक्ने छ ।

च) पाठ्यक्रम लागू मिति : २०६८। गते देखि

प्रश्नको किसिम	प्रश्नको संख्या र अंक	कैफियत
लामो उत्तर दिनु पर्ने प्रश्न	५ X १० = ५०	
छोटो उत्तर दिनु पर्ने प्रश्न	५ X ५ = २५	
बस्तुगत प्रश्न	२५ X १ = २५	



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प्रा.उ.से. ईलेक्ट्रिकल ट्रेड "ख" श्रेणी पद (आन्तरीक) को लिखित परीक्षाको पाठ्यक्रम

1. Principle of Electrical Engineering

Basic Concept of Electricity, Electric Circuit, Electrical Power and Energy, Electrolysis and its applications, Electrostatics, Magnetism and Electromagnetism, Electromagnetic Induction, Fundamentals AC Circuit, Three phase System, Network Theorems.

2. Engineering Materials and Process

Magnetic Materials, Resistor Alloys, Metal Forming Process, Heat Treatment of Metals, Insulating Materials, Machine Tools Processes, Joining of Metals, Semiconductor Materials.

3. Electric Circuit Theory

DC Network Theorems and Circuit Analysis, AC Fundamentals, Three Phase System.

4. Basic Electronics

Introduction, Circuit Fundamentals, Diodes, Bipolar Junction Transistors (BJT), Field Effect Transistor, Transistor Biasing and AF Amplifier, Electronic Power Supply, Introduction to Digital Electronics Technique, Binary Notation, Two State Devices, Logic Gates, Multivibrators, Counters, A/D & D/A Conversion, Memories, Digital Displays, Introduction to ALU.

5. Electrical Measurement and Measuring Instruments

Measuring Instruments, Resistance Measurement, Inductance and Capacitance Measurement, Shunt Multiplier, Potentiometers, Current and Potential Transformer, Power, Energy and Frequency Measurement, Measurements of Non-Electrical Quantities, Digital meters- construction, Operation and Applications.

6. Generation, Transmission and Distribution of Electrical Power

Generation of Electrical Energy, Substation, Supply System, Transmission Lines, Distribution System, Voltage Control, System interconnection.

7. Electrical Machines

Single Phase Transformer, Three Phase Transformer, D.C. Generator, D.C. Motors, Three Phase Induction Motor, Single Phase A.C. Motor, Synchronous Generator and Synchronous Motor.

8. Utilization of Electrical Energy

Introduction, Illumination, Industrial Utilization of Electrical Energy, System of Traction, Power Factor Correction, Tariff



9. Switch Gear and Protection

Fundamentals of Protection System, Fuses and MCB, Isolators and Contractors, Circuit Breakers, Current and Potential Transformers, Fault Calculation, Earthing and Protection Against Over Voltages, Relay and Protection Scheme.

10. Electrical Maintenance and Repair

Introduction, Maintenance, Repair, Testing, Maintenance of Wiring System, Appliances Maintenance and Repair, Maintenance and Repair of Motorised Appliances, Maintenance and Repair of Transformers, Preventive Maintenance of Electrical Motors, Repair and Re-winding of Motors, Trouble-shooting of Electrical Motors, High Voltage Testing and Cable Fault Location.

11. Power Electronics

Power Electronics Devices, Power Rectifier, AC Voltage Controller, Inverter, DC to DC Chopper, Applications of Power Electronics Devices.

12. Safety Rules and Regulation

Safe use of Electrical Components, Electric Shocks, Equipment Earthing, Fire Hazards, Fire Fighting Technique.