

नेपाल सरकार
गृह मन्त्रालय
प्रहरी प्रधान कार्यालय
(मानवश्रोत एवं प्रशासन विभाग, भर्ना तथा छनौट महाशाखा)
नक्साल, काठमाण्डौ ।

प्राविधिक प्रहरी नायव निरीक्षक (इलेक्ट्रिकल ओभरसियर) समूहको खुला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम ।

पाठ्यक्रमको रूपरेखा:- यस पाठ्यक्रमको आधारमा निम्नानुसार दुई चरणमा परीक्षा लिईने छ :-

प्रथम चरण:- लिखित परीक्षा (Written Examination)

पूर्णाङ्क :- १५०

द्वितीय चरण:- अन्तरवार्ता (Interview)

पूर्णाङ्क :- २५

प्रथम चरण:- लिखित परीक्षा योजना (Examination Scheme)

पत्र	विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्याXअङ्क भार	समय
प्रथम	सम्बन्धी विषय सम्बन्धी	१००	४०	वस्तुगत बहुउत्तर (Multiple Choice)	५०X२ = १००	४५ मिनेट
द्वितीय	नेपाल प्रहरी सेवा सम्बन्धी	५०	२०	वस्तुगत बहुउत्तर	१०x१ = १०	१ घण्टा १० मिनेट
				विषयगत	लामो उत्तर १x१० = १० छोटो उत्तर ६x५ = ३०	

द्वितीय चरण

परीक्षाको किसिम	पूर्णाङ्क	परीक्षा प्रणाली
व्यक्तिगत अन्तर्वार्ता	२५	मौखिक

- वस्तुगत बहुउत्तर (Multiple Choice) प्रश्नहरूको उत्तर सही दिएमा प्रत्येक सही उत्तर बापत २ (एक) अङ्क प्रदान गरिनेछ भने गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अर्थात् ०.४ अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
- यस पाठ्यक्रममा जेसुकै लेखिएको भएता पनि पाठ्यक्रममा परेका ऐन, नियमहरू परीक्षाको मिति भन्दा ३ महिना अगाडि संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
- द्वितीय पत्र नेपाल प्रहरी सेवा सम्बन्धमा सोधिने प्रश्न संख्या द्वितीय पत्रको पाठ्यक्रममा उल्लेख गरिएको छ ।
- लिखित परीक्षामा उत्तिर्ण परीक्षार्थीलाई मात्र अन्तर्वार्तामा सहभागी गराईनेछ ।

५. अन्तर्वार्ताको अंकभार सम्बन्धमा प्रहरी सेवाको पदमा नियुक्ति र बढुवा गर्दा अपनाउनु पर्ने सामान्य सिद्धान्त २०६९ को अनुसूची-१९ मा व्यवस्था भए बमोजिम हुनेछ ।

६. पाठ्यक्रम लागू मिति :-

नेपाल प्रहरी

प्राविधिक प्रहरी नायब निरीक्षक (इलेक्ट्रिकल ओभरसियर) समूहको खुल्ला प्रतियोगितात्मक लिखित परिक्षाको पाठ्यक्रम

1. Electric Circuit

Definition, Unit, Explanation and applications of Ohm's Law and Kirchhoff's Law, Connection of resistors in series, parallel and series parallel Combination

2. Electro magnetism and Electro statics

Definition and formation of hysteric loop, force on a current carrying conductor placed in magnetic field, Self Inductance, Factors affecting the inductance of coil, Capacitor, Factors affecting the capacitance of capacitor, Time Constant ($T=RC$)

3. A. C. Fundamentals

Comparison between A.C. & D.C. Voltage and current, Generation of A. C. emf, Frequency, Angular velocity, phase & phase difference, A. C. Circuit with R. L. C. use of J-operator in circuit analysis

4. Fundamental principles of Star and Delta connection of Three phase Windings, Effect of unbalanced load in three phase system, Voltage drop, Principles and applications of Super Position Theorem, Thevenis's theorem and Norton's theorem

5. Objective of earthing of Power system, Causes of Over voltages and its protection, Neutral earthing, Body earthing , Lightning Arrestors - Types, Ratings and Characteristics, applications & locations

6. Principles of A. C. Transformer

Operating principle, connecting load, No load operation, Reactance, Losses and Efficiency, Cooling, Parallel operation of Single phase and Three phase transformer, Tap changing, Noises and Temperature Rise

7. D. C. Generator

Introduction and Principle of operation, constructional details, types, Losses and efficiency, Parallel operation of d. c. generators

8. Ammeters and voltmeters

Principle of operation, Power factor meter, General concept of measurement of Power, Energy, Frequency

9. Operating Principle, characteristics, construction features of Current Transformer and Potential Transformer and their application

10. General concept of load factor, maximum demand, diversity factor, system and line losses, power factor corrections, measurement of resistance, inductance and capacitance

11. Generation of Electrical Energy

Types of generating plants, Diesel and Hydro (Working principle, equipments, Bus bars and Reactors, Automatic Voltage Regulator, Circuit Breakers, CTs, PTs, Relays etc.) 3

12. Lay out concept of Sub-stations and Power-stations (Cabling, auxiliary plants-such as batteries etc., Fire protection and grounding system)

13. Transmission Lines

Introduction-Overhead lines and Underground cables, Types of cables, Selection of cables & Selection criteria, Mechanical and electrical design of Overhead lines, Sag, Tension, Earthing, Corona, Skin effect, Connection Schemes of distribution system

14. Principle of operation of D. C. Motor-Types, Torque, Losses and efficiency, speed control, speed-torque characteristics

15. Introduction and types or single phase A. C. Motor (Motors and their characteristics for particular service-Domestic use.)

16. Introduction, Types, Constructional details and principle of operation of Synchronous Generator (Alternator) and Synchronous Motor, Parallel operation and Synchronizing of Alternator

17. Principles of Illumination (Primary and Secondary illumination, street lighting)

18. Fundamentals of Protection systems

Fuses, MCB Isolators, Contactors, Circuit Breakers - Classification, Construction Operating principle

19. Importance of Communication in power system

20. Principles of cost estimate for distribution system for domestic

21. Three phase induction motor

Construction, Principle of operation, torque speed characteristics, stand still and running condition, method of starting

22. Basic Electronics

Characteristics of diode, transistor and thyristor, Rectifier and filter, inverter, speed control of DC and AC motor by using thyristor

वस्तुगत बहुउत्तर नमूना प्रश्नहरू (Sample questions)

1. You are measuring the current in a circuit that is operated on an 18V battery. The ammeter reads 40mA. Later you notice the current has dropped to 20mA. How much has the voltage changed?

- (A) 9 V (B) 900 mV (C) 0 V (D) 18 V

Correct Answer:- (A)

2. A coil of wire is placed in a changing magnetic field. If the number of turns in the coil is decreased, the voltage induced across the coil will...

- (A) increase (B) decrease (C) remain constant (D) be excessive

Correct Answer:- (B)

3. Sine wave A has a positive going zero crossing at 45° . Sine wave B has a positive going zero crossing at 60° , which of the following statements is true ?

- (A) Wave A leads wave B by 15° (B) Wave A lags wave B by 15°
(C) Wave A leads wave B by 105° (D) Wave A lags wave B by 105°

Correct Answer:- (A)

4. A power supply produce a 0.6 W output with an input of 0.7 W, its percentage of efficiency is.....

- (A) 8.57 % (B) 42.85% (C) 4.28% (D) 85.7%

Correct Answer:- (D)

5. What KVA rating is required for a transformer that must handle a maximum load current of 8A with a secondary voltage of 2KV?

- (A) 4 KVA (B) 0.25 KVA (C) 16 KVA (D) 8 KVA

Correct Answer:- (C)

6. In a three phase system the voltages are separated by

- (A) 45° (B) 90° (C) 120° (D) 180°

Correct Answer:- (C)

7. Which of the following is not the electrical quantity?

- (A) voltage (B) current (C) distance (D) power

Correct Answer:- (C)

-समाप्त-