

लोक सेवा आयोग  
नेपाल नागरिक उड्डयन प्राधिकरण, प्राविधिक, ईलेक्ट्रिकल इन्जिनियरिङ्ग, पाँचौं, वरिष्ठ सहायक पदको  
खुला प्रतियोगितात्मक लिखित परीक्षा  
२०८०।१०।०९

पत्र : द्वितीय  
समय : २ घण्टा ३० मिनेट

पूर्णाङ्क : १००

विषय : सेवा सम्बन्धी

प्रत्येक Section को उत्तर छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नुपर्नेछ । अन्यथा उत्तरपुस्तिका रद्द हुनेछ ।

**Section "A"**

**50 Marks**

1. Define resistance. What are the various factors affecting resistance? Describe. 1+4=5
2. Write about three phase four wire and single phase two wire distribution system. 5
3. Prove that a three-phase balanced load draws three times as much power when connected in delta, as it would draw when connected in star. 5
4. List the main components of diesel generator plant and explain them briefly. 5
5. What are the conditions to be fulfilled for synchronization of alternators? Explain. 5
6. Write about the operating principle of Metal-Oxide lightening arrestor with its installation processes. 5
7. Two resistors of 6 and 12 ohms resistance are connected in parallel. Another 2 ohms resistor is then joined in series as a combined electrical circuit with a supply of 24V DC supply. Draw a connected circuit diagram and calculate the current in each branch of the circuit and total power in watt. 10
8. Write the operating principle of circuit breaker. Also, write the application of different types of circuit breakers used for power system protection. 10

**Section "B"**

**50 Marks**

9. Elaborate the tariff systems used for electricity services in Nepal. And, why are they preferred? Write your opinion. 5
10. Write about general safety precautions in electrical maintenance. 5
11. Mention the general procedures for preventive maintenance of distribution transformer dedicated for commercial buildings. 5
12. Explain Law of Illumination or illuminance. 5
13. Describe the functions and applications of wind direction indicator used in aerodrome region. 5
14. How can you compare series and parallel lighting circuits? Give short example for aeronautical ground light. 5
15. What is earthing? Why is it necessary to provide earthing in electrical installations? Briefly describe the major specification of earthing of electrical installations. 10
16. Discuss about the aerodrome reference code use in aeronautics. As per the location and characteristics, explain different types of runway lights and taxiway lights used in airports. 4+6=10