

लोक सेवा आयोग  
नेपाल नागरिक उड्डयन प्राधिकरण, प्राविधिक, इलेक्ट्रिकल इन्जिनियरिङ्ग, नवौं, प्रबन्धक पदको खुला  
प्रतियोगितात्मक लिखित परीक्षा  
२०८०।०९।१८

पत्र : द्वितीय  
समय : ३ घण्टा

पूर्णाङ्क : १००

विषय : सेवा सम्बन्धी

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

**Section "A"**

**50 Marks**

1. Explain the method of protection of a star-delta transformer with a neat diagram of the protection scheme. 5+5=10
2. Classify and describe about different maintenance practices. What are the pros and cons of routine maintenance practice of equipments used in a modern airport? Suggest any alternatives to the routine maintenance and justify your suggestion. 4+3+3=10
3. Explain the various methods of power factor improvement. Which power factor methods can be applied to improve the power factor at Tribhuvan International Airport which is the busiest airport in Nepal and how it can benefit the airport? 5+5=10
4. Discuss the present status of the current electricity tariff structure supporting to electric cooking to meet the related Nationally Determined Contributions (NDCs). Also, suggest to improve the suitable tariff structure so that consumers will fully switch to e-cooking but there is no negative impact on the revenue of the utility. 10+10=20

**Section "B"**

**50 Marks**

5. What is the objective and importance of Approach Lighting System (ALS) in an airport? Explain the intensity control function of ALS. 5+5=10
6. Explain the Safety Performance Indicator (SPI) and Safety Performance Target (SPT). Describe the importance of safety data collection and analysis. 5+5=10
7. Highlight the distinct features of constant current regulators with respect to constant voltage regulators. Also, explain the operating characteristics of a constant current regulator. 5+5=10
8. Electricity supply circuit in an airport is to provide visual aids and aeronautical ground lighting for safe landing and takeoff. Conceive and detail a real time monitoring system to ensure that each of the fixtures is fully operational and any failure is reported in real time as visual as well as audible alarm. 20