

लोक सेवा आयोग
नेपाल नागरिक उड्डयन प्राधिकरण, प्राविधिक, ई. एण्ड टे.कम. इन्जिनियरिङ, सातौं, वरिष्ठ अधिकृत
पदको खुला प्रतियोगितात्मक लिखित परीक्षा
२०८२।०३।२२

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. Why is Triac required? Explain the basic construction and characteristics of Triac with suitable diagram. 1+4=5
2. What is communication system? What are the differences between analog and digital communications? Explain. 1+4=5
3. What is modulation? Why is it required? What are the types of modulation? Explain in detail each with diagram. 2+2+6=10
4. With the help of excitation table and k-map, convert SR flip flop into D flip flop. What are the key reasons of biasing the transistor to be used as a switch? Provide a suitable example. 5+5=10
5. Explain Real Time Protocol used in telecommunication systems. Give an example of such protocol used in GSM mobile communication. 10
6. Explain different types of optical fiber cables with suitable diagrams. What precautions should be taken during laying of optical fiber cable? Discuss. 5+5=10

Section "B"

50 Marks

7. What does antenna VSWR efficiency indicate? Explain how VSWR efficiency can be measured. 2+3=5
8. Explain how augmentation enhances the accuracy of GPS navigation system. 5
9. What is OSI reference model? Explain in detail the OSI reference model with block diagram. 2+8=10
10. Discuss in detail the principle of three phase electric motors used in AC power supplies with diagram. 10
11. Write down the sources of renewable energy. Explain why renewable energy sources are considered beneficial for the environment. Discuss different factors that influence the output of a PV module. 2+4+4=10
12. Why national spectrum management policies are required? Analyze the role of ITU in spectrum management. 6+4=10

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