

लोक सेवा आयोग
नेपाल नागरिक उड्डयन प्राधिकरण, प्राविधिक, ई. एण्ड टे.कम. इन्जिनियरिङ्ग, सातौं, वरिष्ठ अधिकृत
पदको आन्तरिक तथा खुला प्रतियोगितात्मक लिखित परीक्षा
२०७८/०९/०५

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. Write, in brief, the function of the following devices: 5x1=5
a) Multiplexer, b) Flip-flop, c) Oscillator, d) Rectifier, e) Clamper circuit
2. Mention the types of satellite orbits. In which case are these orbits used? Indicate frequency band used in satellite communication. 2+1+2=5
3. How can you realize NOT gate using a semiconductor device? Explain its working principle along with truth table. Where are such gates used? 5+3+2=10
4. What is the main objective of modulation? What happens if modulation index becomes too low or too high? In which case does one get better S/N ratio : AM or FM Transmission and why? 3+3+4=10
5. Draw a block diagram of VSAT satellite communication system. How will you manage the link budget for small earth station in your company? 5+5=10
6. What are the optical switching and splices in optical communication system? Explain with necessary diagrams. 5+5=10

Section "B"

50 Marks

7. As an electronics and communication engineer, what parameters have you practically measured in an electrical/electronic system? What instruments have you used as a measurement tool? 2.5+2.5=5
8. How does SMPS power system work? Explain with necessary diagram. 5
9. Mention the basic principle of internet. Is this 100% reliable? What can go wrong? How can you improve its reliability? 4+2+2+2=10
10. What are the major differences between series and shunt type ammeters? Explain clearly. 10
11. What do you mean by RADAR? Derive RADAR range equation and interpret it. Explain the concept of navigation with reference to aviation. Explain the working of any one of the navigation system you are familiar with. 1+4+1+4=10
12. What are the relation between ITU and ICAO? Clarify. Briefly explain the national frequency allocation plan in Nepal. 5+5=10

- The End -