

नेपाल टेलिकम (नेपाल दूरसंचार कम्पनी लिमिटेड), प्राविधिक, टेलिकम इन्जिनियरिङ्ग, इलेक्ट्रोनिक्स एण्ड कम्युनिकेशन, सातौं, टेलिकम इन्जिनियर पदको खुला प्रतियोगितात्मक लिखित परीक्षा
लोक सेवा आयोग
२०७९/०३/०९

पत्र : द्वितीय
समय : ३ घण्टा

विषय : Technical Subject

पूर्णाङ्क : १००

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

Subjective

Time : 2 hrs 30 min

70 Marks

Section : "B"

35 Marks

1. Explain the V-1 characteristics of MOSFET. 5
2. Draw generic block diagram of PCM transmitter and receiver. Explain each of the components in brief. 5+5=10
3. Distinguish between Fourier transform, Laplace transform and z transform. Find the Fourier transform of impulse function. List the properties of convolution. 4+4+2=10
4. Mention types of antenna used in VHF band. How can you increase the gain of such antenna? Is it feasible to use parabolic antenna in VHF band? 2+6+2=10

Section : "C"

35 Marks

5. What is system bus? Explain different types of system bus in brief. 1+4=5
6. What are advantages and disadvantages of SMPS over linear power supply? Draw a full-wave rectifier circuit and explain its operation. How do you make the equipment safety from electrical hazards? Explain. 10
7. What are the advantages of Open System Interconnection (OSI) Model in computer networks? Describe OSI layers with examples. What are the differences between OSI and TCP/IP model? 10
8. What do you mean by satellite communication? State Kepler's laws of orbital motion. Which kind of loss is the most important while signaling transmission through the earth's atmosphere above 10GHz? Justify your answer. 2+3+5=10