

नेपाल नागरिक उड्डयन प्राधिकरण
प्राविधिक सेवा, ई.एण्ड टे.कम इन्जिनियरिङ्ग समूह, सातौं तह, बरिष्ठ अधिकृत पदको
नमूना प्रश्नपत्र

पत्र : द्वितीय
समय : ३ घण्टा

विषय : सेवा सम्बन्धी

पूर्णाङ्क १००

Section 'A'

1. What do you understand by parity? Discuss its use in Data Transmission Systems. 5
2. Define Kepler's laws of orbital motion. Explain the roles of these laws in communication system. 2+3=5
3. Draw and explain J-K Flip Flop and its working principle. Also explain its truth table. 10
4. Define modulation. Why modulation is necessary for radio communication? With necessary diagrams derive the expression for amplitude modulated signal. 1+2+7=10
5. Describe the Optical Fibre and its applications. What are the advantages of optical fibres over coaxial cables? 5+5=10
6. What is a photodiode? Compare LED, tunnel diode and varactor diode. 2+8=10

Section 'B'

7. Describe the principle of operation of secondary RADAR. 5
8. Draw the block diagram of a micro computer system and explain its operation. 5
9. Why a layered architecture is preferred in computer communication? Compare OSI Reference Model with TCP/IP Protocol suite. 2+8=10
10. What is spectrum analysis? Who needs to carry out spectrum monitoring and spectrum analysis? Why is spectrum usages monitored and analyzed? 2+4+4=10
11. What is the major problem with analog MTI systems? How can digital MTI overcome it? 10
12. Describe working principle of thermal generator. Explain why 3 phase AC transmission is done at Delta configuration. 5+5=10

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