

लोक सेवा आयोग

नेपाल इञ्जिनियरिङ्ग सेवा, इलेक्ट्रोनिक्स एण्ड टेलिकम्युनिकेशन इञ्जिनियरिङ्ग समूह,

राजपत्रांकित तृतीय श्रेणी (प्राविधिक) पदको प्रतियोगितात्मक लिखित परीक्षा

मिति: २०८२/१२/११

समय: ३ घण्टा

पूर्णाङ्क: १००

पत्र: द्वितीय

विषय: Technical Subject

तलका प्रश्नहरूको उत्तर Section अनुसार छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नुपर्नेछ।

Section – A

30 Marks

1. Explain the basic characteristics of a rectifier circuit. Show their mathematical expressions as applicable. 5
2. Explain the working principle of full wave bridge rectifier circuit with the help of necessary circuit diagram. 5
3. Explain the principle of operation of Analog-to-Digital converters. With neat diagrams, describe the working of a successive approximation Analog-to-Digital converter. 3+7=10
4. Describe the construction and working principle of a DC generator with a neat diagram. Also derive the emf equation of a DC generator. 7+3=10

Section – B

30 Marks

5. Differentiate between e-health and Tele-medicine. 5
6. Explain the difference between travelling waves and standing waves. With the help of neat diagrams, describe the formation of a standing wave on a string fixed at both ends and define nodes and antinodes. 2+3=5
7. Classify the different types of surface detection techniques in computer graphics. Explain about back face detection method for visible surface detection. 5+5=10
8. Explain the concepts of baseband and passband transmission. Discuss the generation and constellation diagram of binary phase shift keying and quadrature phase shift keying. 4+6=10

Section – C

20 Marks

9. Derive radar range equations for air traffic control and weather radars. Mention similarities and differences between MLS and ILS. 8+2=10
10. Describe how the Frequency Monitoring System (FMS) detects, records and analyzes radio frequency signals. Discuss the importance of signal classification direction finding and reporting procedures in effective frequency monitoring. 5+5=10

Section – D

20 Marks

11. Differentiate between vision, mission, goal and objective with suitable examples. Discuss the techniques used by a project manager for the management of a conflict in an organization. 6+4=10
12. Explain the major importance of ITU services in the world wide. Define national frequency allocation plan in accordance with ITU. 6+4=10

««The End»»