

लोक सेवा आयोग
सिडिएस एण्ड विल्यरिङ्ग लिमिटेड, प्राविधिक, छैटी, आई.टी. अधिकृत पदको आन्तरिक तथा खुला
प्रतियोगितात्मक लिखित परीक्षा
२०८२/१२/२३

पत्र : द्वितीय

समय : ३ घण्टा

पूर्णाङ्क : १००

विषय : **Information Technology, Capital Market and Related Legislations**

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

Section : "A"

40 Marks

1. Compare Von-Neumann and Harvard computer architecture with suitable block diagram of each. 5
2. Elaborate the distributed operating system and its applications. 3+2=5
3. What is a database transaction? Explain the ACID properties of transaction with example. Describe various states of transaction with neat diagram. Explain recoverable schedule of transaction. 1+3+3+3=10
4. Define e-commerce and e-business. What is Electronic Data Interchange (EDI)? Discuss the advantages of EDI in modern business communication. Also, explain its working mechanism. 2+2+2+4=10
5. What is deadlock? How does it occur? Explain Bankers Algorithm with example along with numerical calculations. 2+2+6=10

Section : "B"

40 Marks

6. What is a view in database? What are its applications? Write. 2+3=5
7. Discuss the concept and importance of Server Virtualization. 2+3=5
8. Explain Spiral Model in software development. How does it differ from Waterfall Model? Present. 6+4=10
9. Explain the seven layers of OSI Reference Model and their functions. Compare TCP and UDP protocols with suitable examples. 6+4=10
10. Mention the objectives of Electronic Transactions Act, 2063. Explain the role and responsibility of Controller as per the Act. 4+6=10

Section : "C"

20 Marks

11. Present the current status of trading of government bonds in the securities market of Nepal. 5
12. Write down the functions, duties and powers of the Securities Board of Nepal (SEBON). 5
13. Write a note on how improved IT infrastructure can help to develop the capital market in Nepal. Give your opinion on what kind of IT services should be added in the current capital market infrastructure of Nepal to achieve the expected outcomes. 4+6=10

- The End -