

Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Computer Science and Technology
200 level 1st Semester Examination – May/July 2017
CST231-3 Data Communication and Networking



Instructions to candidates

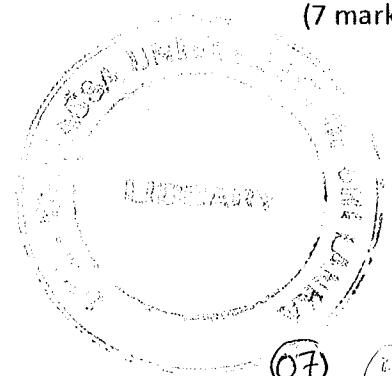
Time allocation: Three (03) hours

Number of questions: Six (06)

Mark allocation: 100

Answer all the questions.

1.
 - a. What is Computer Network? (1 mark)
 - b. Briefly explain the three (03) transmission modes in computer networks. (3 mark)
 - c.
 - i. Name four (04) basic network topologies. (2 mark)
 - ii. Write an advantage and disadvantage of the each network topologies that mentioned in c (i). (4 mark)
2.
 - a. What is 'Domain Name System'? (1 mark)
 - b. Briefly describe the three (03) categories of Name Servers that manage the entire Domain Name System. (6 mark)
 - c. What are the differences between Absolute URL and Relative URL? (3 mark)
3.
 - a. How does information get passed from one layer to the next in the OSI model? (6 mark)
 - b. Briefly describe three (03) services provided by the application layer in the OSI model. (6 mark)
 - c. Describe two (02) protocols that reside at the transport layer in OSI model. (8 mark)
4.
 - a. Explain the 'Checksum' technique in error detection. (8 mark)
 - b. In Cyclic Redundancy Check (CRC), show the relationship between the following entities.
 - i. The number of bits of the dataword and the number of bits of the codeword (6 mark)
 - ii. The number of bits of the divisor and the number of bits of the remainder (6 mark)
5.
 - a. What are the three (03) basic steps in close loop congestion control? (3 mark)
 - b. Briefly describe 'Admission Control' approach in close loop congestion control. (10 mark)
 - c. Compare and contrast the congestion and flow Control. (7 mark)



6. Write short notes for the following topics.

- a. IPv6 address
- b. Sliding window protocol
- c. Error correction techniques
- d. Twisted-Pair cable

(4 x 5 mark)