

IS F462 Network Programming Final Exam

Winter 2022 – 23

May 07, 2022 02:00 – 04:00 PM

Max Marks: 40

Name: _____

Roll No: _____

Instruction

- Write your name and roll number *before* writing any answers
- Write answers **briefly** and to the point in the space provided below each question

1. What is a stateless network protocol for two communicating hosts? (2 marks) How being a stateless make the protocol robust? (2 marks)

2. What does sequence number refer to in the TCP header? (2 marks) What does the ACK sequence number refer to? (2 marks)

3. Give a scenario when a receiver does not send an FIN but sends ACK in response to a FIN from the sender? (4 marks)

4. Give a scenario when having a large window in the sliding window is efficient? (4 marks)

5. Why an IP address is called a logical address? (2 marks) Which protocol translates logical address into a physical address? (2 marks)
6. Under which circumstance will a node not know its own IP address? (2 marks) Why does a node need an IP address? (2 marks)
7. In DHCP, how can an attacker divert a host's connection to a malicious host? (4 marks)
8. What information is public in the Diffie-Hellman key exchange protocol? (4 marks)

9. How is a digital signature on a message computed? (4 marks)

10. How is non-repudiation different from authentication? (2 marks) How to achieve non-repudiation? (2 marks)