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| Serial No: |
| **Final**  **Part B** |
| **Total Time: 1 Hours** |
| **Total Marks: 40** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signature of Invigilator |

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| **CS-307 Computer Networks** |
| Thursday, December 21, 2017 |
| **Course Instructors** |
| Dr. Ehtesham Zahoor, Dr. Kashif Munir and  Dr. Muhammad Asim |

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## DO NOT OPEN THE QUESTION BOOK OR START UNTIL INSTRUCTED.

**Instructions:**

1. Attempt on question paper. Attempt all of them. Read the question carefully, understand the question, and then attempt it.
2. No additional sheet will be provided for rough work.
3. After asked to commence Part B, please verify that you have **Five (5)** different printed pages including this title page. There is only **One (1)** question in part B with 18 short questions to answer.
4. Use permanent ink pens only. Any part done using soft pencil will not be marked and cannot be claimed for rechecking.

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|  | Q-2 | **Total** |
| **Marks Obtained** |  |  |
| **Total**  **Marks** | **40** |

**Vetted By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vetter Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. What is the stopping criteria for the traceroute packets? **[2]**
2. Why is NAT controversial? **[2]**
3. Why does the “newly arriving DHCP host/client” use the broadcast IP address in the “DHCP request” message instead of using the IP address of a DHCP server? **[2]**
4. What is “hot potato routing”? **[2]**
5. Name a protocol whose messages are carried directly over IP (rather than TCP or UDP). **[1]**
6. List down the advanced features of OSPF that are not in RIP. **[3]**
7. What is the primary role of the backbone area in Hierarchical OSPF? **[2]**
8. Why do we need both link-level and end-to-end reliability? **[2]**
9. Why the reliable delivery of frames between adjacent nodes is mostly implemented on wireless links? **[2]**
10. What is the difference between a half-duplex and a full-duplex link? **[1]**
11. What is the link layer flow control? **[2]**
12. What are the functions (responsibilities) of a sender side network adapter (NIC)? **[3]**
13. Name any two broadcast links (shared wire or medium)? **[2]**
14. Name any two random access MAC protocols? **[2]**
15. Write the binary (exponential) backoff algorithm that is used in Ethernet? **[4]**
16. List down the disadvantages of “token passing” MAC protocol? **[3]**
17. Write any three differences of link-layer switches and routers? **[3]**
18. Write any two differences of MAC and IP addresses **[2]**