Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec– 2017**

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| **Code :** | **14CS2066** | **Duration :** | **3hrs** |
| **Sub. Name :** | **TCP/IP** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Refer to the exhibit below. Sketch the process of encapsulation and decapsulation for seven layers of OSI model. | CO1 | 5 |
| b. | Summarize the functionalities of five layers of TCP/IP Protocol Suite. | CO1 | 15 |
| (OR) | | | | |
| 2. | a. | Imagine the length of a 10Base5 cable is 1500 meters. If the speed of propagationin a thick coaxial cable is 200,000,000 meters/second, how long does it take for abit to travel from the beginning to the end of the network? Ignore any propagationdelay in the equipment. | CO2 | 5 |
| b. | Compare and contrast Wired and wireless networks. | CO2 | 10 |
|  | c. | Outline the features of layer 3 connecting devices in networks. | CO2 | 5 |
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| 3. | a. | What are the various entries in IP routing table? | CO2 | 5 |
|  | b. | Identify the host portion and network portion of the following IP address.  i. 129.10.0.1 ii. 223.12.67.98 iii. 10.6.8.9 iv. 204.192.178.20 v. 162.204.20.10 | CO2 | 5 |
|  | c. | What is the first valid host on the subnetwork that the node 172.26.54.119 255.255.255.192 belongs to? | CO2 | 5 |
|  | d. | What is the broadcast address of the network 192.168.210.192/27? | CO2 | 5 |
| (OR) | | | | |
| 4. | a. | Design an efficient addressing scheme for the following network. | CO3 | 5 |
|  | b. | In a class A subnet, the IP address of one of the hosts and the subnetmask are as given below:  IP Address: 25.34.12.56 Subnet mask: 255.255.0.0  What is the first address (subnet address)? What is the last address? | CO3 | 5 |
|  | c. | Find the result of each operation:  i**.** (22.14.70.34) AND (255.255.0.0) ii**.** (12.11.60.12) AND (255.0.0.0) | CO3 | 5 |
|  | d. | Sketch IPV6 header. | CO3 | 5 |
|  |  |  |  |  |
| 5. | a. | Discuss the working of tracrt command. | CO2 | 10 |
|  | b. | Explain the sequence of packets transferred to resolve IP address to MAC address. | CO3 | 10 |
| (OR) | | | | |
| 6. | a. | Suggest solutions to overcome two node instability problems in network. | CO2 | 10 |
|  | b. | List the various types of messages in OSPF Protocol. | CO2 | 5 |
|  | c. | Contrast and compare static routing with Dynamic Routing. | CO2 | 5 |
|  |  |  |  |  |
| 7. | a. | Refer to the exhibit and answer the following questions     1. What is the total size of the window? 2. How many packets has been sent? 3. How many packets are yet to be delivered? 4. How many packets are delivered but not acknowledged? | CO2 | 5 |
|  | b. | How do TCP enforce congestion control and error control? | CO2 | 15 |
| (OR) | | | | |
| 8. | a. | List the applications that prefers TCP. | CO3 | 5 |
|  | b. | Sketch the header structure of UDP. | CO2 | 5 |
|  | c. | Explain the connection establishment and finish in TCP. | CO2 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Give the source IP address in DHCP Discover message from source client to DHCP server. | CO3 | 5 |
|  | b. | List the various types of records in DNS. | CO3 | 5 |
|  | c. | Bob sends a mail from bob@xyz.com to alice with address alice@abc.com. Narrate the working of mail transfer process from xyz.com server to abc.com server. List the important protocols and agents involved in data transmission. | CO3 | 10 |

ALL THE BEST