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



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **14CS2027** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INTERNET ROUTING ARCHITECTURE** | **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. | Explain the origin and the recent history of the Internet. | CO1 | 10 |
| b. | Illustrate how networks are interconnected via NAP. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Discuss the different services and technical characteristics offered by Internet Service Provider. | CO1 | 12 |
| b. | Create an addressing scheme with network address 172.15.0.0 that meets the requirements shown in the diagram using variable length subnet masking (VLSM). | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | Distinguish the distance vector and link state routing protocols. | CO2 | 10 |
| b. | Explain the private addressing and network address translation with example. | CO1 | 10 |
| **(OR)** | | | | |
| 4. |  | Explain the working of BGP with its message header format and different message types. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Explain the various BGP-4 aggregation techniques to handle CIDR and supernetting. | CO2 | 10 |
| b. | Describe any five BGP path attributes that are part of BGP UPDATE message. | CO2 | 10 |
| **(OR)** | | | | |
| 6. |  | Discuss how redundancy, symmetry and load balancing can be ensured for single-homing and multi-homing networks with single and multiple providers. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Illustrate the methods by which large scale autonomous system can be managed with examples. | CO3 | 20 |
| **(OR)** | | | | |
| 8. | a. | Elaborate the factors that lead to route instability and describe the BGP mechanism to build stability on the Internet. | CO3 | 12 |
| b. | Explain how policy routing is followed for controlling the flow of traffic with example. | CO3 | 8 |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain and apply the configuration of all the routers to establish BGP peering sessions for the below given network topology IGP to establish the required underlying connectivity internally. | CO3 | 10 |
| b. | Demonstrate the configuration of any five BGP attributes that can be configured on the routers with example. | CO3 | 10 |