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 :** | **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 in detail the origin and the history of Internet. | CO1 | 10 |
| b. | Describe the four Router Arbiter Projects for routing administration. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Elaborate on the different services offered by ISP and service level agreements in detail. | CO1 | 12 |
| b. | Create an addressing scheme that meets the requirements shown in the diagram using variable length subnet masking (VLSM). | CO1 | 8 |
| 3. | a. | Discuss the ways by which the segregating the worlds in Autonomous system results in a more manageable networks. | CO2 | 10 |
|  | b. | Elaborate on IPv6 addressing and different IPv6 address types. | CO1 | 10 |
| (OR) | | | | |
| 4. |  | Explain the BGP message header format and the four different message types with diagram. | CO2 | 20 |
|  |  |  |  |  |
| 5. |  | What are the four categories of BGP path attributes? Discuss each of these attributes that are part of BGP UPDATE message for controlling BGP routes. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | Discuss designing redundancy, symmetry and load balancing for single-homing and multi-homing scenario with examples. | CO2 | 20 |
|  |  |  |  |  |
| 7. | a. | Elaborate the route reflector and confederations mechanism with configuration in detail with examples. | CO3 | 12 |
|  | b. | Describe how to avoid routing loops when BGP policies conflict with internal defaults. | CO3 | 8 |
| (OR) | | | | |
| 8. |  | Discuss factors that affect route instabilities on the Internet and explain the BGP tools for building core stability on the Internet. | CO3 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain and write the configuration of all the router’s to establish BGP peering sessions for the below given network topology.Use OSPF as an IGP to establish the required underlying connectivity internally. | CO3 | 10 |
|  | b. | Demonstrate the different methods of aggregation that can be applied on the routers for the above given network topology. | CO3 | 10 |

ALL THE BEST