# MANIPAL INSTITUTE OF TECHNOLOGY
## MANIPAL
*A Constituent Institution of Manipal University*

## VI SEMESTER B.TECH (ELECTRICAL & ELECTRONICS ENGINEERING) MAKEUP EXAMINATIONS, JUNE 2017

### SUBJECT: COMPUTER NETWORKS [ELE 4017]
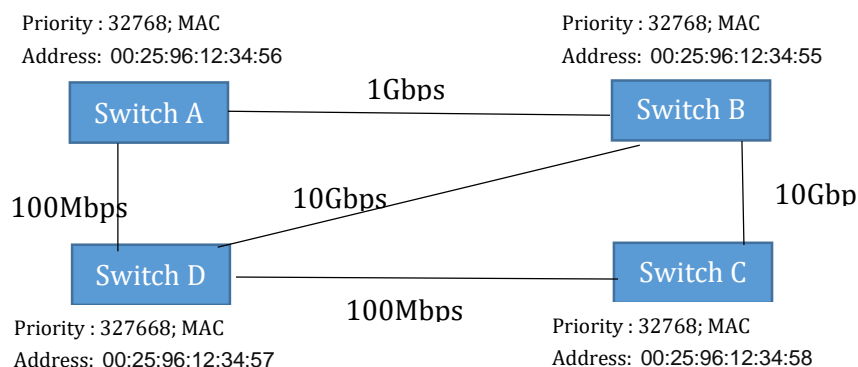REVISED CREDIT SYSTEM

**Time: 3 Hours**  **Date:  20 June 2017**  **Max. Marks: 50**

**Instructions to Candidates:**
- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.
- ❖ Draw diagrams wherever necessary.

| | | |
|---|---|---|
| **1A.** | What is the principle difference between connection-oriented communication and connectionless communication | **(02)** |
| **1B.** | Explain in detail the terms "service" and "interface". | **(03)** |
| **1B.** | Explain the step by step process involved in transforming a working document into an internet standard | **(05)** |
| **2A.** | A service provider is granted a block of address in class full addressing with the beginning address as 14.24.74.0/24. The service provider needs to have 2 subblocks of addresses to get connected to customers as shown below. Also mention the number of address not used with its first and last address<br>    a)  One subblock with 60 addresses<br>    b)  One subblock with 16 addresses | **(04)** |
| **2B.** | What is load balancing? Mention its advantages. | **(02)** |
| **2C.** | For the network given indicate the root port, designated port and blocked port | |



| | | |
|---|---|---|
| | | **(04)** |
| **3A.** | Define virtualization. Explain the server virtualization. | **(05)** |
| **3B.** | Explain the various techniques used to avoid network loops that occur when RIP protocol is used for router configuration | **(05)** |
| **4A.** | Explain the range of services offered by the cloud vendors. | **(03)** |
| **4B.** | Explain server multihoming with neat diagrams | **(04)** |

**4C.** Subnet the network address 192.168.10.0/24 with subnet mask /28; determine and tabulate the following:
  a) No. of subnets
  b) Valid subnets
  c) Broadcast address for each subnet
  d) Valid hosts                                                                        *(03)*

**5A.** What is clustering? Explain the different types of clusters supported by cluster software                                                                        *(04)*

**5B.** Explain the different types of server farms in an enterprise datacenter            *(06)*