



# MANIPAL INSTITUTE OF TECHNOLOGY MANIPAL

(A constituent Institution of MAHE, Manipal)

## VI SEMESTER B.TECH (ELECTRICAL & ELECTRONICS ENGINEERING) END SEMESTER EXAMINATIONS, APRIL 2018 SUBJECT: COMPUTER NETWORKS [ELE 4017]

REVISED CREDIT SYSTEM

Time: 3 Hours

Date: 24<sup>th</sup> April 2018

Max. Marks: 50

### Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.

- 1A. Explain the reference model widely known for its protocols with neat diagram (05)
- 1B. Explain the step by step process involved in transforming a working document into an internet standard (05)

- 2A. Find the configuration of a router from the given routing table. Draw its topology?

Mask	Network address	Next hop Address	Interface number
/26	140.6.12.64	---	m0
/24	130.4.8.0	180.14.0.2	m2
/16	110.70.0.0	----	m1
/16	190.17.0.0	----	m3
/16	180.14.0.0	---	m2
Default	Default	130.4.8.2	m2

(02)

- 2B. Subnet the network address 192.168.10.0/24 using the subnet mask 255.255.255.224/27 and find the following:
- No. of subnets
  - No. of hosts per subnet
  - What's the broadcast address for each subnet
  - What are the valid hosts

(05)

- 2C. Explain the different types of clusters supported by cluster software

(03)

- 3A. Consider the newly established network shown in Figure 3A. Draw the routing table formed at the beginning and end of the convergence time by each router. Also configure the routers using RIP.

(06)

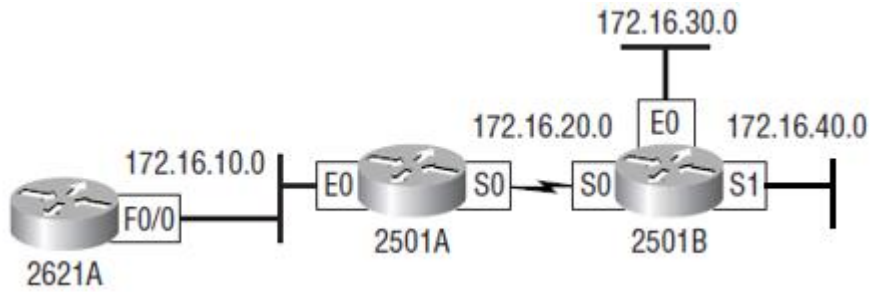


Figure 3A

- 3B.** For the network given indicated in Figure 3B the root bridge, root port, designated port and blocked port. All the switches have the same priority and the MAC addresses of each switch is as mentioned below

S1:00:00:00:00:00:05

S2:00:00:00:00:00:04

S3:00:00:00:00:00:03

S4:00:00:00:00:00:01

S5:00:00:00:00:00:02

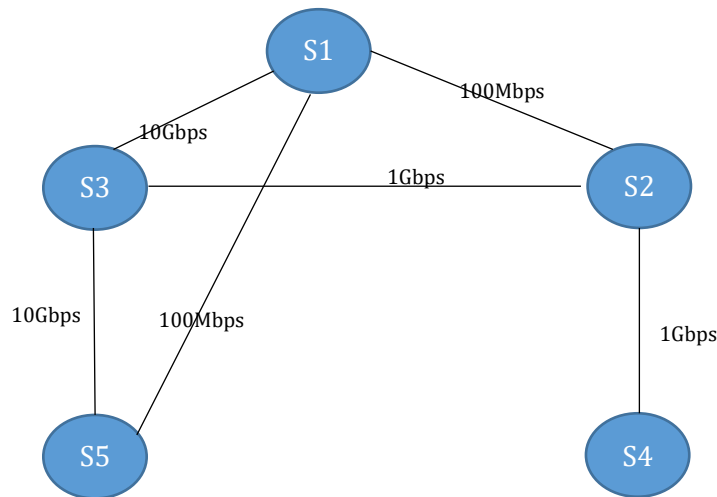


Figure 3B

(04)

- 4A.** What is the relation between cloud and datacenter? Explain the range of services offered by the cloud vendors (04)
- 4B.** Define virtualization. Explain server virtualization and storage virtualization. (06)
- 5A.** What is the significance of NIC? Explain server multihoming with neat diagrams (04)
- 5B.** Explain the server farms in an enterprise datacenter with neat diagrams (06)