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# MANIPAL INSTITUTE OF TECHNOLOGY

## MANIPAL

*A Constituent Institution of Manipal University*

### SEVENTH SEMESTER B.TECH. (INSTRUMENTATION AND CONTROL ENGG.)

### END SEMESTER EXAMINATIONS, NOV - 2017

### SUBJECT: COMPUTER NETWORK & PROTOCOL [ICE - 4017]

Duration: 3 Hour

Max. Marks:50

#### Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be assumed and draw diagrams wherever necessary

- 1A** With neat diagram, explain TCP/IP and OSI reference models by listing all functionalities. 5
- 1B** Explain the process involved in transforming a working document into an internet standard. 3
- 1C** Distinguish connection-oriented communication and connectionless communication. 2
- 2A** In a network, subnet address is 192.168.10.0/24 with subnet mask /28; determine the following: 4
- a) No. of subnets
  - b) Valid subnets
  - c) Broadcast address for each subnet
  - d) Valid hosts
- 2B** Differentiate layer 2 and layer 3 broadcast with one example for each 2
- 2C** 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: 4
- a) One subblock with 60 addresses
  - b) One subblock with 16 addresses
- Diagrammatically show the network information highlighting the address wastage
- 3A** Explain all layers of virtualization with an example. 7
- 3B** List different types of routing and write its advantage and disadvantage. 3
- 4A** What is the relation between cloud and datacenter? Explain the range of services offered by the cloud vendors 4
- 4B** Describe different timers in RIP? 2
- 4C** Define cloud computing. What are the two main disadvantages of cloud? 2

- 5A** Consider the newly established network shown in Fig Q.5A. Draw the routing table formed at the beginning and end of the convergence time by each router. Also configure the routers using RIP. 5
- 5B** Contrast between OSI and TCP/IP 3
- 5C** List various WLAN security issues. 2

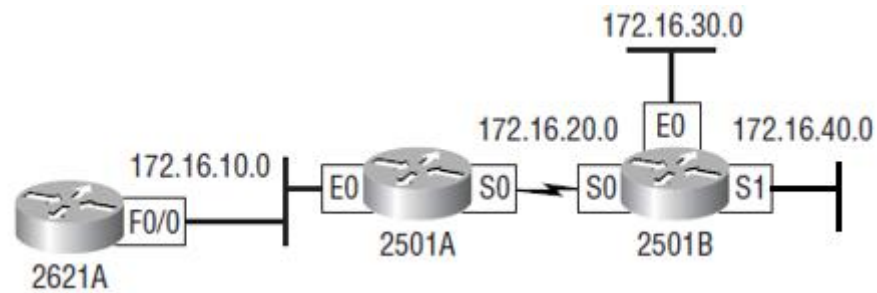


Figure Q.5A