

Registration No:

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Total Number of Pages: 02

B.Tech
PEI5H002

5th Semester Regular Examination 2017-18
Computer Network and Data Communication

BRANCH: AEIE, EIE, IEE

Time: 3 Hours

Max Marks: 100

Q.CODE: B389

Answer Question No.1 and 2 which are compulsory and any four from the rest.

The figures in the right hand margin indicate marks.

Q1 Answer the following questions: *multiple type or dash fill up type* (2 x 10)

- a) There are ____ number of layer present in OSI model and ____ number of layer present is TCP/IP model.
- b) In the OSI model, as a data packet moves from the lower to the upper layers, headers are ____.
- c) For error detection
- d) ____ addressing is used in network layer and ____ addressing is used in data-link layer.
- e) IPv4 uses ____ number of bit for addressing and IPv6 uses ____ number of bit for addressing.
- f) Switch is ____ layer device and hub is ____ layer device.
- g) There are two types of routing such as ____ and ____ based on different types of domain.
- h) For class B address, there are ____ number of bits in host ID and ____ number of bits for network ID.
- i) Ring topology is ____ then mesh topology in scalability and ____ in terms of reliability.
- j) Network layer receive data from ____ layer and send data to ____ layer from top to bottom.

Q2 Answer the following questions: *Short answer type* (2 x 10)

- a) What are the various topology used in networking?
- b) What is DHCP? Why DHCP is used in networking?
- c) What do you mean by process to process delivery?
- d) What is CRC?
- e) What is subnetting and supernetting?
- f) What advantages does fiber optics have over other media?
- g) Define data rate and baud rate?
- h) What is the difference between LAN and WAN?
- i) Why HTTP protocol is used in WWW?
- j) What is DNS?

Q3 a) What is OSI model? Explain various layer of OSI model? (10)

b) Explain various types of multiplexing? (5)

Q4 a) What is the difference between error detection and error correction? Explain various methods of error detection. (10)

b) What is circuit switching? Explain with suitable diagram? (5)

Q5 a) What is flow control and error control? How Go-back-N sliding window protocol provide flow control? **(10)**

b) Consider a selective repeat sliding window protocol that uses frame size of 1 KB to send data on 1.5Mbps link with latency of 50msec. For 60% utilization of link, what is the minimum number of bit required to represent sequence number ? **(5)**

Q6 a) Explain various types of transmission media? **(10)**

b) What is ethernet? How fast ethernet is different from Gigabyte ethernet? **(5)**

Q7 a) Differentiate between IPv4 and IPv6? **(10)**

b) What is the need of ICMP protocol? **(5)**

Q8 a) What is routing? Explain the working of OSPF with suitable example? **(10)**

b) What is the use of ARP and RARP? **(5)**

Q9 a) Short note : answer any TWO : **(10)**

i) SMTP

ii) FTP

iii) Digital signature

iv) TCP Congestion control

b) Explain client server model with suitable diagram for internet. **(5)**