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10MCA32

Third Semester MCA Degree Examination, June/July 2015
Computer Networks

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions.***

1 a. Compare and distinguish OSI model and internet architecture. **(05 Marks)**
b. What is the need for multiplexing? Explain the working details of API. **(10 Marks)**
c. Explain protocol implementation issues. **(05 Marks)**

2 a. Define framing. Explain SONET with its header format. **(10 Marks)**
b. Consider the message polynomial $x^7 + x^4 + x^3 + x^1$ with a generator polynomial $x^3 + x^2 + 1$. Find CRC with necessary steps. **(10 Marks)**

3 a. Explain stop-and wait algorithm with the time lines showing various scenarios. **(10 Marks)**
b. Explain the token ring frame format (802.5) in detail. **(10 Marks)**

4 a. Explain the transmission of a packet through virtual circuit network with an example. **(10 Marks)**
b. Define IP. Give a note on IPv4 packet header format. **(10 Marks)**

5 a. Explain distance-vector routing algorithm with an example. **(10 Marks)**
b. Define sub-netting. Explain subnet addressing with an example. **(10 Marks)**

6 a. Describe the TCP header format with an example. **(05 Marks)**
b. With a neat diagram, explain the TCP state transition diagram. **(10 Marks)**
c. Explain effective resource allocation scheme. **(05 Marks)**

7 a. Explain DNS in detail. **(05 Marks)**
b. Explain SMTP in transferring internet e-mail. **(05 Marks)**
c. Describe in detail, VoIP with suitable diagram. **(10 Marks)**

8 Write a short notes on :
a. HDLC and PPP
b. RPC
c. UDP
d. WiMAX(802.6). **(20 Marks)**

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