

Code No: R05410401

**R05****Set No. 2****IV B.Tech I Semester Examinations, November 2010****COMPUTER NETWORKS****Common to BME, MECT, ETM, EIE, ECE****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions****All Questions carry equal marks**

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1. (a) Compare point-to-point channels with broadcast channels along with suitable examples?  
(b) A collection of five routers is to be collected in a point-to-point subnet. Between each pair of routers, the designers may put a high speed line, a medium-speed line, a low-speed line, or no line. If it takes 100ms of computer time to generate and inspect each topology, how long will it take to inspect all of them to find the one that best matches the expected load? [8+8]
2. (a) How connections are setup and released in ATM?  
(b) What is the Format of routing table in ATM? How it helps in routing cells? [8+8]
3. (a) What is Broadcasting. What are the various methods of achieving it.  
(b) What is Reverse path forwarding. How it is useful for broadcasting. Explain with an example. [10+6]
4. (a) Compare and contrast RZ and bipolar AMI?  
(b) Differentiate between optical fiber and coaxial cables? [8+8]
5. (a) Discuss the principle of operation of control token MAC method and with the aid of diagram. Explain how it may be used with both a bus and ring network topology ?  
(b) A LAN uses Mok and Ward's version of binary countdown. At a certain instant, the ten stations have the virtual station numbers 8, 2, 4, 1, 7, 3, 6, 9, and 0. The next three stations to send are 4, 3, and 9, in that order. What are the new virtual station numbers after all three have finished their transmissions? [8+8]
6. (a) What is substitution cipher? How it works? Using statistical properties how do you break cipher text.  
(b) How transposition ciphers are different from substitution ciphers? Explain the columnar transposition with example. [8+8]
7. (a) What are the header fields in TCP segment header that are required for flow control & congestion control? Explain how these fields are used for flow control and congestion control?

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- (b) What are the header fields in TCP segment header that are required for error control? What are the limitations of it? [8+8]
8. (a) Consider an error-free 64 kbps satellite channel used to send 512 byte data frames in one direction, with very short acknowledgements coming back the other way. What is the maximum throughput for window sizes 1,7,15 and 127?
- (b) What is pipelining? What are its advantages? What are the issues that raises when pipelining frames over an unreliable communication channel? Mention the approaches to deal with these errors? [8+8]

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**R05****Set No. 4****IV B.Tech I Semester Examinations, November 2010****COMPUTER NETWORKS****Common to BME, MECT, ETM, EIE, ECE****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions****All Questions carry equal marks**

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6. (a) How connections are setup and released in ATM?
- (b) What is the Format of routing table in ATM? How it helps in routing cells? [8+8]
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- (b) What is pipelining? What are its advantages? What are the issues that raises when pipelining frames over an unreliable communication channel? Mention the approaches to deal with these errors? [8+8]
8. (a) Compare point -to-point channels with broadcast channels along with suitable examples?
- (b) A collection of five routers is to be collected in a point-to-point subnet. Between each pair of routers, the designers may put a high speed line, a medium-speed line, a low-speed line, or no line. If it takes 100ms of computer time to generate and inspect each topology, how long will it take to inspect all of them to find the one that best matches the expected load? [8+8]

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**Set No. 1**

7. (a) How connections are setup and released in ATM?  
(b) What is the Format of routing table in ATM? How it helps in routing cells?  
[8+8]
8. (a) What is substitution cipher? How it works? Using statistical properties how do you break cipher text.  
(b) How transposition ciphers are different from substitution ciphers? Explain the columnar transposition with example.  
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**R05****Set No. 3****IV B.Tech I Semester Examinations, November 2010****COMPUTER NETWORKS****Common to BME, MECT, ETM, EIE, ECE****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions****All Questions carry equal marks**

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5. (a) Consider an error-free 64 kbps satellite channel used to send 512 byte data frames in one direction, with very short acknowledgements coming back the other way. What is the maximum throughput for window sizes 1, 7, 15 and 127?  
(b) What is pipelining? What are its advantages? What are the issues that raises when pipelining frames over an unreliable communication channel? Mention the approaches to deal with these errors? [8+8]
6. (a) Compare and contrast RZ and bipolar AMI?

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- (b) Differentiate between optical fiber and coaxial cables? [8+8]
7. (a) What is Broadcasting. What are the various methods of achieving it.  
(b) What is Reverse path forwarding. How it is useful for broadcasting. Explain with an example. [10+6]
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