Code No: R05310504 **R05** **Set No. 2**

III B.Tech I Semester Examinations,December 2011
COMPUTER NETWORKS
Common to Information Technology, Computer Science And Engineering
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Discuss the various kinds of supervisory frames in HDLC?
   (b) Consider the operation of sliding window protocol using selective repeat over a 1-Mbps error-free line. The maximum frame size is 1000 bits. New packets are generated about 1 second apart. The timeout interval is 10msec. If the special acknowledgement timer were eliminated, unnecessary timeouts would occur. How many times would the average be transmitted? [8+8]

2. (a) Explain how IP can be used over ATM?
   (b) What are ATM service categories? [8+8]

3. (a) Explain Dijkstra's shortest path algorithm.
   (b) Consider graph given figure 1b. Compute the shortest path from A to D. [8+8]

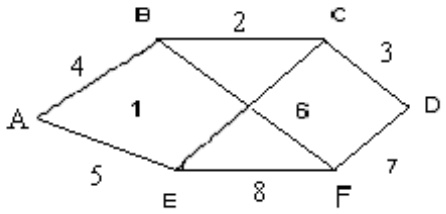

Figure 1b

4. (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]

5. (a) What is multicasting? How IP supports multicasting?
   (b) What is the advantage of exchanging exact path in BGP?
   (c) Why BOOTP is preferred over RARP? [6+5+5]

6. (a) What are the components of SNMP management models? Explain?
   (b) What is the significance of abstract syntax notation?
   (c) What are SNMP message types? [5+5+6]

7. (a) What is the prime difference between a token bus and a token ring?
   (b) A large population of ALOHA users manages to generate 50 requests/sec, including both originals and retransmissions. Time is slotted in the units of 40 msec.
      i. What is the chance of success on the first attempt?
      ii. What is the probability of exactly k collisions and then a success?
      iii. What is the expected number of transmission attempts needed? [4+12]

8. (a) Discuss various channels supported by ISDN bit pipe?
   (b) Differentiate between virtual circuits and circuit switching? [8+8]

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Code No: R05310504 **R05** **Set No. 4**

III B.Tech I Semester Examinations,December 2011
COMPUTER NETWORKS
Common to Information Technology, Computer Science And Engineering
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Discuss various channels supported by ISDN bit pipe?
   (b) Differentiate between virtual circuits and circuit switching? [8+8]
2. (a) Explain how IP can be used over ATM?
   (b) What are ATM service categories? [8+8]
3. (a) What are the components of SNMP management models? Explain?
   (b) What is the significance of abstract syntax notation?
   (c) What are SNMP message types? [5+5+6]
4. (a) Discuss the various kinds of supervisory frames in HDLC?
   (b) Consider the operation of sliding window protocol using selective repeat over a 1-Mbps error-free line. The maximum frame size is 1000 bits. New packets are generated about 1 second apart. The timeout interval is 10msec. If the special acknowledgement timer were eliminated, unnecessary timeouts would occur. How many times would the average be transmitted? [8+8]
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   (b) What is the advantage of exchanging exact path in BGP?
   (c) Why BOOTP is preferred over RARP? [6+5+5]
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   (b) A large population of ALOHA users manages to generate 50 requests/sec, including both originals and retransmissions. Time is slotted in the units of 40 msec.
      i. What is the chance of success on the first attempt?
      ii. What is the probability of exactly k collisions and then a success?
      iii. What is the expected number of transmission attempts needed? [4+12]

8. (a) Explain Dijkstra's shortest path algorithm.
   (b) Consider graph given figure 1b. Compute the shortest path from A to D. [8+8]

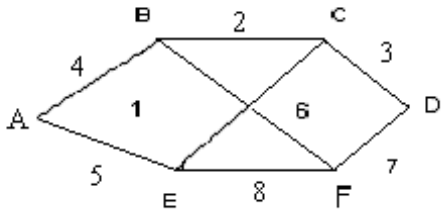

Figure 1b

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Code No: R05310504 **R05** **Set No. 1**

III B.Tech I Semester Examinations,December 2011
COMPUTER NETWORKS
Common to Information Technology, Computer Science And Engineering
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) Explain Dijkstra's shortest path algorithm.
   (b) Consider graph given figure 1b. Compute the shortest path from A to D. [8+8]

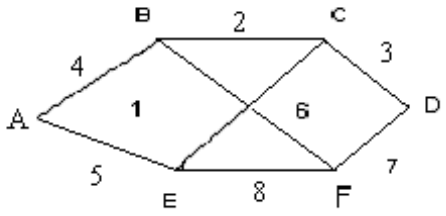

Figure 1b

3. (a) Explain how IP can be used over ATM?
   (b) What are ATM service categories? [8+8]

4. (a) What are the components of SNMP management models? Explain?
   (b) What is the significance of abstract syntax notation?
   (c) What are SNMP message types? [5+5+6]

5. (a) What is multicasting? How IP supports multicasting?
   (b) What is the advantage of exchanging exact path in BGP?
   (c) Why BOOTP is preferred over RARP? [6+5+5]

6. (a) Discuss various channels supported by ISDN bit pipe?
   (b) Differentiate between virtual circuits and circuit switching? [8+8]

7. (a) What is the prime difference between a token bus and a token ring?
   (b) A large population of ALOHA users manages to generate 50 requests/sec, including both originals and retransmissions. Time is slotted in the units of 40 msec.

i. What is the chance of success on the first attempt?
ii. What is the probability of exactly k collisions and then a success?
iii. What is the expected number of transmission attempts needed? [4+12]

8. (a) Discuss the various kinds of supervisory frames in HDLC?
   (b) Consider the operation of sliding window protocol using selective repeat over a 1-Mbps error-free line. The maximum frame size is 1000 bits. New packets are generated about 1 second apart. The timeout interval is 10msec. If the special acknowledgement timer were eliminated, unnecessary timeouts would occur. How many times would the average be transmitted? [8+8]

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Code No: R05310504 **R05** **Set No. 3**

III B.Tech I Semester Examinations,December 2011
COMPUTER NETWORKS
Common to Information Technology, Computer Science And Engineering
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain Dijkstra's shortest path algorithm.
   (b) Consider graph given figure 1b. Compute the shortest path from A to D. [8+8]

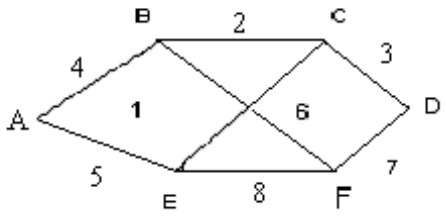

Figure 1b

2. (a) What is multicasting? How IP supports multicasting?
   (b) What is the advantage of exchanging exact path in BGP?
   (c) Why BOOTP is preferred over RARP? [6+5+5]

3. (a) Discuss various channels supported by ISDN bit pipe?
   (b) Differentiate between virtual circuits and circuit switching? [8+8]

4. (a) Explain how IP can be used over ATM?
   (b) What are ATM service categories? [8+8]

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   (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]

6. (a) What are the components of SNMP management models? Explain?
   (b) What is the significance of abstract syntax notation?
   (c) What are SNMP message types? [5+5+6]

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i. What is the chance of success on the first attempt?
ii. What is the probability of exactly k collisions and then a success?
iii. What is the expected number of transmission attempts needed? [4+12]

8. (a) Discuss the various kinds of supervisory frames in HDLC?
   (b) Consider the operation of sliding window protocol using selective repeat over a 1-Mbps error-free line. The maximum frame size is 1000 bits. New packets are generated about 1 second apart. The timeout interval is 10msec. If the special acknowledgement timer were eliminated, unnecessary timeouts would occur. How many times would the average be transmitted? [8+8]

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