

SHRI SANT GADGE BABA COLLEGE OF ENGINEERING & TECHNOLOGY,
BHUSAWAL

Department of Electronics & Communication Engineering

Subject: Computer Communication Network (CCN)

BE (E&C)-SEM-I

UNIVERSITY PAPER QUESTIONS BANK

UNIT-I

*** Nov/Dec-2008 ***

1. What are the advantages of layered architecture in communication network? With a neat sketch explain TCP/IP model. **10**
2. Give features of ATM networks ? With a proper sketch explain ATM cell header format. **10**
3. Discuss in brief:
 - i) Virtual switching
 - ii) Broadband co-axial cable. **10**

*** April/May-2009 ***

4. Explain the concept of Internet with respect to other networks. **10**
5. Explain system architecture of ISDN with its different services. **10**
6. Enlist different Wireless transmission techniques & explain any one in details. **10**

*** Nov/Dec-2009 ***

7. Explain different network topologies with suitable diagrams. **10**
8. Explain different terms related with wireless transmission. **10**
9. What do you mean by virtual switching & circuit switching related with ISDN? Explain in details. **10**

*** April/May-2010 ***

10. What is ISDN? Explain broadband ISDN with its architecture. 10
11. Explain in brief the need & goal of the computer network. 10
12. What are the various physical topologies used in practical LAN & WANs? Explain giving neat sketches & mention their relative merits & demerits. 10

*** Nov/Dec-2010 ***

13. Explain TCP/IP model & list out the protocols working at the different layers of TCP/IP model with neat sketch. 10
14. Explain different types of network topologies with the help neat sketch. 10
15. Explain the wired transmission in detail. 10

*** April/May-2011 ***

16. What are the advantages of layered architecture in communication network? Draw a neat structure of ISO-OSI model & explain link to link layers in it. 10
17. With a neat diagram explain different channel structure & functional groupings in Narrowband ISDN architecture. 10
18. Explain the following: 10
- i) Features of TCP
 - ii) Broadband ISDN services.

*** Nov/Dec-2011 ***

19. Draw a neat structure of ISO-OSI model & explain end to end layers in it. 10
20. Explain in brief: 10
- i) Virtual switching
 - ii) ISDN Interfaces.
21. With appropriate diagram schematic explain wired transmission medias in detail. 10

*** April/May-2012 ***

22. Compare OSI model with TCP/IP reference model. **10**
23. Explain the architecture of ISDN & state its interface. Also give the specification of Narrow band ISDN. **10**
24. Write note of Novel Netware. **10**

*** Nov/Dec-2012 ***

25. Explain the system architecture of Narrowband ISDN with suitable diagram. **10**
26. What do you understand by term circuit switching & packet switching network. **10**
27. Draw neat structure of ISO-OSI model & explain in detail end-to-end layers in it. **10**

*** April/May-2013 ***

28. Draw & explain ATM reference model. **10**
29. Enlist & explain different types of transmission media. **10**
30. Draw & explain TCP/IP model. **10**

UNIT-II

*** Nov/Dec-2008 ***

1. Explain CSMA/CD protocol as applied to LAN network with relevant diagrams & frame format. **10**
2. What are different transmission modes in HDLC ? With appropriate sketch explain HDLC frame format. **10**
3. With appropriate sketches explain operating principle of Go back to – N using sliding window protocol. **10**

*** April/May-2009 ***

4. Explain what are main design issues of data link layer. **10**
5. Enlist different multiple access protocols. Explain any one. **10**
6. Explain IEEE 802.3 Standard. **10**

*** Nov/Dec-2009 ***

7. Explain design issues related with data link layer in details. **10**
8. Explain Go-Back-n sliding window protocol with suitable diagrams. **10**
9. Explain different multiple access protocols in short. **10**

*** April/May-2010 ***

10. Explain design issues of data link layer in details. **10**
11. List different types of protocols & explain Go back–N protocol in detail. **10**
12. Compare 802.4 & 802.5 IEEE standards. **10**

*** Nov/Dec-2010 ***

13. Explain the design issues of data link layer. **10**
14. Explain the working of IEEE 802.6 Standard in detail. **10**
15. Give the different transmission modes in HDLC? Also explain HDLC frame format with neat diagram. **10**

*** April/May-2011 ***

16. With appropriate sketch & format explain multiple access mechanism in token passing bus LAN. **10**
17. What is STOP & WAIT flow control? With reference to proper sketch explain handling of
- i) A damaged frame
 - ii) A lost frame **10**
18. With a appropriate representation explain CSMA/CD protocol mechanism. How collision avoidance can be maintained? **10**

*** Nov/Dec-2011 ***

19. What is HDLC? Explain different modes of transmission & its frame format in detail. **10**
20. Explain Go-back to 'n' sliding window protocol operating principle using appropriate sketches. **10**
21. What is IEEE 802.2 Standard? Explain with the help of header format & relevant diagrams. **10**

*** April/May-2012 ***

22. Explain CSMA/CD protocol in detail. **10**
23. What is Ethernet? Explain its frame format. **10**
24. Explain sliding window protocol in detail. **10**

*** Nov/Dec-2012 ***

25. Explain 'Go-back to N' sliding protocol operating principle using appropriate sketches. **10**
26. Explain 802.2 logic link control protocol. **10**
27. With an appropriate representation explain CSMA/CD protocol mechanism. How collision avoidance can be maintained? **10**

*** April/May-2013 ***

28. Write short notes on stop & wait protocol. **10**
29. Explain the concept of 'Token passing bus' protocol. **10**
30. Draw & explain 802.5 std MAC frame. **10**

UNIT-III

*** Nov/Dec-2008 ***

1. What are general principles of congestion control algorithms? Explain Leaky Bucket algorithm. **10**
2. Explain with suitable illustrations the shortest path routing. **10**
3. In brief explain the concept of routing for ad-hoc networks. With a neat sketch discuss the Route Request packet format. **10**

*** April/May-2009 ***

4. What is the concept of virtual circuit in network layer? What do you mean by datagram subnets in it. **10**
5. Enlist different routing algorithm. Explain any one. **10**
6. What are the different congestion control policies with respect to network layer. **10**

*** Nov/Dec-2009 ***

7. Explain the idea behind shortest path routing. Explain any one algorithm in detail. **10**
8. What do you mean by congestion control? Explain what the congestion prevention policies are in network layer. **10**
9. Explain the terms Virtual Circuit & Datagram subnets related with network layer. **10**

*** April/May-2010 ***

10. What is Routing? Why it is essential? Explain the basic types of Routing Algorithms. **10**
11. Write notes on:
 - i) Broadcast Routing.
 - ii) Multi cast Routing. **10**
12. Explain congestion prevention policies in detail. **10**

*** Nov/Dec-2010 ***

13. Give the classification of routing & explain any one in detail. **10**
14. Explain congestion prevention policies. **10**
15. Explain at each hop, how flow is reduced in hop by hop choke packet. **10**

*** April/May-2011 ***

16. Give the comparison between virtual circuit & datagram approaches used in packet switching with reference to different issues. **10**
17. Explain the concept of routing algorithm with classification. Discuss in detail concept of broadcast routing. **10**
18. Explain in brief effect & causes of congestion. Show the effect of congestion on packet delivery & list different congestion prevention policies. **10**

*** Nov/Dec-2011 ***

19. How routing is performed in ad-hoc networks? Explain the packet format for route request in ad-hoc networks. **10**
20. What are the reasons for congestion in network? Explain in detail various congestion prevention policies implemented to avoid it. **10**
21. How shortest path is selected by a router? Explain in detail hierarchical routing by appropriate representation. **10**

*** April/May-2012 ***

22. Write notes on:
i) Broadcast Routing.
ii) Multi cast Routing. **10**
23. Explain any one type of congestion control algorithm. **10**
24. Explain design issues of network layer. **10**

*** Nov/Dec-2012 ***

25. Compare Virtual Circuit & Datagram subnets. **10**
26. Explain Hierarchical routing. How does this reduce the size of routing table. **10**
27. Write notes on:
i) Load Sheeding.
ii) Shortest path routing. **10**

*** April/May-2013 ***

28. Explain in detail 'Broadcast Routing'. **10**
29. How routing is performed in adhoc network. Explain the packet format for route request in adhoc networks. **10**
30. Explain in detail flooding & chock packets. **10**

UNIT-IV

*** Nov/Dec-2008 ***

1. What is ARP ? How ARP is implemented? Draw ARP protocol format & explain in brief. **10**
2. With appropriate sketches different classes of IP addressing. What is subnet addressing? **10**
3. Draw the format of IPV₄ datagram & explain in brief all the fields in it. **10**

*** April/May-2009 ***

4. Draw & explain IP_v 4 datagram. **10**
5. How MAC & IP addresses are mapped? Explain protocols related with it. **10**
6. Explain the concept of ATM LAN. **10**

*** Nov/Dec-2009 ***

7. Give the classification of IP addresses with suitable IP ranges. **10**
8. Draw & explain IP_v 4 datagram. **10**
9. How IP addresses & Physical addresses are mapped in Network Layer? Which are the related protocols for them? Explain each in details. **10**

*** April/May-2010 ***

10. Explain ARP & reverse ARP in detail. **10**
11. Explain IPV₄ header format. **10**
12. Explain connection oriented & connectionless inter networking in detail. **10**

*** Nov/Dec-2010 ***

13. How does DHCP work explain it in detail. **10**
14. Explain internet control message protocol in brief. **10**
15. With the help of neat sketches explain various classes of IP addressing. **10**

*** April/May-2011 ***

16. Draw the format of IPv₄ datagram & explain in brief different extension headers. **10**
17. Discuss in brief different address formats used in IP. Also draw format of special IP addresses. **10**
18. With reference to IPv₄ datagram explain source route option & time stamp option. Is it necessary to copy IP options in all fragments of datagram. **10**

*** Nov/Dec-2011 ***

19. What are the advantages of IPv₆ over IPv₄? With the appropriate diagram explain different extension headers used in it. **10**
20. What is the fragmentation of datagram in IPv₄? Explain different field related to fragmentation as used in IPv₄ datagram. Draw IPv₄ datagram. **10**
21. How mapping between IP addresses & physical addresses is provided in network layer? Explain with the help of related protocols. **10**

*** April/May-2012 ***

22. Explain ARP & RARP. Draw ARP protocol format & explain it. **10**
23. What is subnetting? Explain subnet mask with the help of suitable example. **10**
24. Explain the format of IPv₆ in details. **10**

*** Nov/Dec-2012 ***

25. What is ARP? How ARP is implemented? Draw ARP protocol format & explain in brief. **10**
26. Explain concept of checksum & fragmentation. **10**
27. How does DHCP works. Explain it in detail. **10**

*** April/May-2013 ***

28. Write a short note on reverse address resolution protocol. **10**
- 29 Write a short note on routing & tunneling. **10**
30. Compare IPv₄ & IPv₆ . **10**

UNIT-V

*** Nov/Dec-2008 ***

1. Draw the UDP header format & explain the function of each field. Give features of UDP. 10
2. For a Domain Name System explain message format for Name server & draw the header format. 10
3. Draw the TCP segment format & explain the function of each field used in it. 10

*** April/May-2009 ***

4. Explain different services & features of c. 10
5. How flow control & error control performs in transport layer. 10
6. Explain concept of WWW & e-mail applications in details. 10

*** Nov/Dec-2009 ***

7. Explain how flow control & error control are performed in transport layer using TCP. 10
8. Why Domain Name System is used? Explain how it works for accessing internet? 10
9. Explain in detail World Wide Web & URLs. 10

*** April/May-2010 ***

10. Draw the TCP header format & explain it. 10
11. Explain ATM-AAL layer protocol in brief. 10
12. Write note on Domain Name System. 10

*** Nov/Dec-2010 ***

13. Explain in brief how SNMP provide access to the management information. 10
14. Draw the UDP header format & explain the function of each field. 10
15. Write short notes on:
 - i) TCP segments.
 - ii) Network security. 10

*** April/May-2011 ***

16. How timeout & retransmission is handled in TCP? Why round trip time is important? **10**
17. What is UDP? How it differs from TCP? With a appropriate diagram explain UDP header format. **10**
18. Explain in brief:
- i) SMTP.
 - ii) Catching in DNS. **10**

*** Nov/Dec-2011 ***

19. What are the features of TCP? Explain the concept of active open & passive open as applicable to TCP. **10**
20. With the help of proper structure explain in detail various fields as a part of TCP packet. **10**
21. What are the features of UDP? With a neat format explain different constituents of header of UDP. **10**

*** April/May-2012 ***

22. Explain TCP segment in detail. **10**
23. Explain the various messages defined by SNMP. **10**
24. Write a note on ATMAAL protocol & explain its various types. **10**

*** Nov/Dec-2012 ***

25. Explain concept of WWW & its application in detail. **10**
26. Explain flow control & buffering in transport layer. **10**
27. Explain in brief how SNMP provides access to the management information. **10**

*** April/May-2013 ***

28. Write a short note on E-mail. **10**
- 29 Draw the UDP header format & explain the function of each field. **10**
30. Write a short note on Domain Name system. **10**