

Day & Date	Semester	Subject Name	Time	Code	Marks
Tuesday 09/10/2018	IV (Repeater)	Computer Networks	02.30 PM to 05.00 PM	4103	75

Note: Q.1 is compulsory

Attempt any four questions from Q. 2 to Q. 7.

Time- 2.5 hrs

Marks- 75

Q. 1	A) Difference between DNS and DHCP.	8
	B) Draw and explain TCP segment format.	7
Q. 2	A) Explain Distance Vector & Link State class of routing protocols in detail.	8
	B) Explain ICMP & its use for troubleshooting in the internet.	7
Q. 3	A) Draw and explain classfull addressing scheme	8
	B) Describe Ethernet hardware address format.	7
Q. 4	A) Explain the congestion mechanism in TCP using slow start mechanism.	8
	B) Difference between IPv4 and IPv6 addressing.	7
Q. 5	Explain the following with suitable diagrams.	15
	1) ARP 2) ARP protocol format 3) Reverse ARP	
	4) ARP cache 5) Proxy ARP	
Q. 6	Explain the following with respect to the routing:	15
	1) Routing 2) Router 3) Routing table 4) Static routing	
	5) Dynamic routing 6) Default routing 7) Routing and routed protocols	
Q.7	Write short note on (Any 5)	15
	i) HTTP ii) TELNET iii) SMTP iv) Fast Ethernet	
	v) Gigabit ethernet vi) firewall vii) switch	

Day & Date	Semester	Subject Name	Time	Code	Marks
Monday 02/04/2018	IV Fresh	Computer Networks	11.00 AM To 01.30 PM	4103	75

Instruction: i) Que.1 is compulsory.
ii) Solve any four from Que.2 to Que.7

Q.1(a) Explain DoD model in detail. Draw the comparative diagram of the OSI & DoD model (10)

(b) Explain LAN and WAN with diagram (5)

Q.2 Explain the following with suitable diagram (15)

i) ARP

ii) ARP cache and ARP time out

iii) ARP protocol format

iv) RARP

v) proxy ARP

Q.3(a) Explain IPv4 datagram format (7)

(b) Explain ICMP and its use for troubleshooting in the internet (8)

Q.4(a) Explain distance vector routing and link state routing (10)

(b) Difference between DNS and DHCP (5)

Q.5(a) Draw and explain TCP and UDP segment format (8)

(b) Describe Ethernet hardware address format (7)

Q.6(a) Draw and explain classfull addressing scheme (8)

(b) Explain the congestion mechanism in TCP using slow start mechanism (7)

Q.7 Write short note on (Any 5) (15)

i) HTTP

ii) TELNET

iii) SMTP

iv) Fast Ethernet

v) Gigabit ethernet

vi) firewall

vii) switch

Day & Date	Semester	Subject Name	Time	Code	Max. Marks
Saturday 11/11/2017	IV Repeater	Computer Networks	02.30 PM To 05.00 PM	4103	75

Note: 1) Q.1 is Compulsory.
2) Attempt any 4 questions from Q.2 to Q.7.

- Q.1** a) Explain TCP State machine in detail. **08**
b) Explain the Congestion mechanism in TCP using slow start mechanism. **07**
- Q.2** a) Difference between IPv4 and IPv6 addressing. **08**
b) Explain ICMP its use for troubleshooting in the internet. **07**
- Q.3** a) Explain Distance Vector & Link State class of routing protocols in detail. **08**
b) Explain the following with respect to the routing. **07**
- 1) Routing
 - 2) Routing table
 - 3) Static routing
 - 4) Router
 - 5) Dvnamic routind
 - 6) Default routing
 - 7) Routing and round protocol
- Q.4** a) Explain Properties of internet. **05**
b) Explain Fast & Gigabit Ethernet. **05**
c) Explain TCP segment format. **05**
- Q.5 Explain the following term.** **15**
- a) UDP
 - b) HTTP
 - c) DNS
 - d) DHCP
 - e) Switch
- Q.6 Explain the following with suitable diagrams.** **15**
- a) ARP
 - b) ARP protocol format
 - c) Reverse ARP
 - d) ARP cache
 - e) Proxy ARP
- Q.7 Write a short note on:** **15**
- a) FTP
 - b) SMTP
 - c) Telnet
 - d) RIP
 - e) Firewall

[APRIL 2017]

CODE : 4103-Computer Networks (B.Sc.IT-Sem-IV-Fresh-Newcourse)
Dt 10-04-2017

BSC-IT 2ND YEAR, IV SEMESTER, FINAL
COMPUTER NETWORKS

Question no.1 is compulsory attempt any 5 out of the rest.

- Q.1 Explain DoD model in detail. Draw the comparative diagram of the OSI & DoD models. (15)
- Q.2 Explain the congestion control mechanism in TCP using slow start mechanism. (12)
- Q.3 Draw formats for the following: (12)
- Ethernet frame.
 - IPv4 packet format.
 - TCP & UDP segment format
- Q.4 Explain different functions of TCP in detail. Draw the TCP state machine diagram. (12)
- Q.5 Explain the following with suitable diagrams: (12)
- ARP & ARP protocol format
 - Proxy ARP & ARP cache
 - Sockets
- Q.6 Explain Distance Vector & Link State class of routing protocols in detail. (12)
- Q.7 Write short notes on: (Any Four) (12)
1. HTTP 2. Telnet 3. SMTP 4. FTP 5. UDP
- Q. 8 Explain the following:
- (1) Fragmentation (2) Encapsulation & Decapsulation (3) Firewall (6)
 - (4) Difference between packet & circuit switching (3)
 - (5) Classless vs Classfull (3)

Note: Q.1 is compulsory

Attempt any four questions from Q. 2 to Q. 7.

Time- 2.5 hrs

Marks- 75

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|------|--|----|
| Q. 1 | A) Difference between IPv4 and IPv6 addressing. | 8 |
| | B) Draw and explain the TCP segment format. | 7 |
| Q. 2 | A) Explain Fast & Gigabit Ethernet. | 8 |
| | B) Explain ICMP & its use for troubleshooting in the internet | 7 |
| Q. 3 | A) Write a short note a) FTP b) SMTP | 8 |
| | B) Explain TCP State Machine in detail. | |
| Q. 4 | A) Explain RIP & Firewall. | 8 |
| | B) Difference between DNS and DHCP | 7 |
| Q. 5 | A) Explain Distance Vector & Link State class of routing protocols in detail. | 8 |
| | B) Explain Switch & Router. | 7 |
| Q. 6 | Explain the following with respect to the routing: | 15 |
| | Routing Router Routing table Static routing | |
| | Dynamic routing Default routing Routing and routed protocols | |
| Q. 7 | Write a short note on: | 15 |
| | ARP ARP protocol format Reverse ARP | |
| | ARP cache Proxy ARP | |

Bachelor Of Science (Information Technology)

Examination: April 2016 Semester: IV (Fresh) (New Course)

Day & Date	Semester	Subject Name	Time	Code
Monday 11/04/2016	IV (Fresh)	Computer Networks	11. 00 AM to 01. 30 PM	4103

**Instructions: Question 1 is compulsory.
Answer any 4 from Q2 to Q7.**

- Q.1** a. Explain TCP. State Machine in details. **08**
b. Explain ICMP & its use for troubleshooting in the internet. **07**
- Q.2** Explain Distance Vector & Link State class of routing protocols in detail. **15**
- Q.3** Explain TCP/IP model in detail. Draw the comparative diagram of the OSI & DoD models. **15**
- Q.4** Explain CSMA/CD in detail. Describe H/W address format in short. **15**
- Q.5** Explain IPv4 datagram format in detail. Explain the circumstances in which fragmentation would be applied and how? **15**
- Q.6 Explain the following with suitable diagrams:** **15**
- 1) ARP
 - 2) ARP protocol format
 - 3) Reverse ARP
 - 4) ARP cache
 - 5) Proxy ARP
- Q.7 Write a short note on:** **15**
- a) FTP
 - b) SMTP
 - c) Switch & Router
 - d) Application level interconnection
 - e) Properties of internet

**B.Sc. in Information Technology Semester – IV (Fresh)
(New Course) Examination April 2015**

Day & Date	Semester	Subject Name	Time	Code	Max. Marks
Saturday 18/04/2015	IV (Fresh)	Computer Networks	11. 00 PM to 01. 30 PM	4103	75

**Note: 1. Question No. 1 is compulsory.
2. Attempt any 5 questions from Q2 to Q8.**

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- Q. 1.** Explain **TCP/IP model** in detail. Draw the comparative diagram of the **OSI &DoD** models. 15
- Q. 2.** Explain CSMA/CD in detail. Describe Ethernet H/W address format in short. 12
- Q. 3.** Explain **TCP State Machine** in detail. 12
- Q. 4.** Explain **IPv4** datagram format in detail. Explain the circumstances in which fragmentation would be applied and how? 12
- Q. 5. A)** Draw formats for the following 08
- a)** Ethernet frame.
- b)** TCP & UDP segment format.
- B)** Give short interpretations of **routing, table driven routing, next hop routing** 04
- Q. 6.** Explain the following with suitable diagrams: 12
- Address Resolution problem
 - Direct & Dynamic binding
 - ARP protocol format
 - Proxy ARP
- Q. 7.** Explain **Distance Vector & Link State** class of routing protocols in detail 12
- Q.8 Write short notes on: (any 3)** 12
1. ICMP
 2. DHCP
 3. DNS
 4. UDP

**B.Sc. in Information Technology Semester – IV (Repeater)
Examination: October 2014**

Day & Date	Semester	Subject Name	Time	Code	Max. Marks
Monday 13/10/2014	IV (Repeater)	Advanced Computer Networks	02.30 PM to 5.00 PM	4005	75

**Note: 1. Question 1 is compulsory.
2. Answer any 4 From Q2 to Q7**

Q.1 Design an optimized addressing scheme using **VLSM** in order to satisfy the following requirements: **(15)**

NAME OF THE N/W	HOST REQUIREMENTS
BSc	3000
BCA	1150
Home Science	100
Administration	150

Use a class-A IP address range

Q.2 A) Explain the congestion control mechanism in **TCP** using slow start mechanism. **(10)**

Q.2 B) Draw **TCP & UDP** segment format. **(5)**

Q.3 Explain the following with suitable diagrams: (any three) **(15)**

- ARP
- ARP protocol format
- Reverse ARP
- ARP cache
- Proxy ARP

Q.4 Explain different functions of **TCP** in detail. Draw the **TCP** state machine diagram. **(15)**

Q.5 Explain **DoD model** in detail. Draw the comparative diagram of the **OSI & DoD** model. (DoD model: TCP/IP Model) **(15)**

Q.6 Explain the following with suitable diagrams: **(15)**

- FIREWALL
- IPsec

Q.7 Explain **RIP** and **OSPF** routing protocols in detail. **(15)**

