

Program: S.Y.B.Sc CS Semester: IV Program Code: UGCS02  
 Course: Computer Networks Course Code: USCS402

Duration: 1 Hour Examination Pattern: NEP Autonomous External Max. Marks: 30

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.

**Examination:  
REGULAR**

<b>Q. 1</b>	<b>Attempt any TWO of the following.</b>	<b>[10]</b>	<b>Course Outcome</b>	<b>Knowledge Level</b>
(a)	List and describe the characteristics of data communication.		CO1	L1
(b)	Describe Star topology and ring topology with suitable diagram.		CO2	L2
(c)	Explain transmission impairments in detail with causes.		CO3	L2
(d)	Find and check CRC for 1110010101 with the divisor 1101.		CO2	L3
<b>Q. 2</b>	<b>Attempt any TWO of the following.</b>	<b>[10]</b>	<b>Course Outcome</b>	<b>Knowledge Level</b>
(a)	What is analog signal ? List and explain it's characteristics.		CO1	L2
(b)	Judge the effectiveness of ARQ protocols in error control. Explain Go-Back and ARQ & selective repeat ARQ.		CO4	L5
(c)	Consider the data unit to be transmitted is 10011001 11100010 00100100 10000100 find and check the check sum.		CO3	L3
(d)	Identify the class of the following IP addresses : i. 192.168.1.2 ii. 10.10.10.1 iii. 128.56.7.8 iv. 253.255.255.26 v. 137.5.7.8		CO2	L4
<b>Q. 3</b>	<b>Attempt any TWO of the following.</b>	<b>[10]</b>	<b>Course Outcome</b>	<b>Knowledge Level</b>
(a)	Identify the errors in the following IP addresses and correct them: i. 278.10.9.8 ii. 10001001.24.56.8 iii. 192.234.567.8.7 iv. 10.040.8.6 v. 192.168.1.2		CO3	L3
(b)	Draw header format of TCP label all the fields.		CO4	L3
(c)	Analyze the difference between IPv4 and IPv6 headers.		CO2	L4
(d)	Explain significance of ICMP protocol.		CO4	L5