

**Program:** S.Y.B.Sc IT                      **Semester:** IV                      **Program Code:** UGIT01  
**Course:** Computer Networks                      **Course Code:** NUIT403  
**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**

Q. 1	Attempt any Three of the following.	[15]	Course Outcome	Knowledge Level
(a)	List and describe the components of data communication.		CO1	L1
(b)	Explain the functions of Physical layer and Data Link layer.		CO2	L2
(c)	Write about data flow with suitable diagram.		CO1	L3
(d)	Find the CRC for data block 100100 using divisor 1101 and verify whether the data is accepted or rejected.		CO3	L4
(e)	Determine whether the received 7-bit Hamming code 1011011 is correct using even parity. If incorrect, locate the bit in error.		CO3	L3
Q. 2	Attempt any Three of the following.	[15]	Course Outcome	Knowledge Level
(a)	Judge the effectiveness of ARQ protocols in error control. Explain Go-Back and ARQ & selective repeat ARQ.		CO4	L5
(b)	Analyze the difference between IPv4 and IPv6 headers.		CO2	L4
(c)	Draw and design the header format of IPv4 and label all fields.		CO2	L6
(d)	Explain the working of ICMP protocol.		CO3	L3
(e)	Identify the errors in the following IP addresses and correct them:  1. 278.10.9.8 2. 10001001.24.56.8 3. 192.234.567.8.7 4. 10.040.8.6 5. 192.168.1.2		CO2	L2

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