SSN COLLEGE OF ENGINEERING, KALAVAKKAM
Department of Computer Science and Engineering
B.E. (CSE) V semester UNIT TEST – I
CS2302 - Computer Networks
Answer Key

Part A **[5 * 2 = 10]**

1. Port number 16 bit used in Transport layer.

   Logical Address → IP Address, 32 bit, Network layer

   Physical Address → MAC Address, 48 bit, DLL

2.
   a. Ensuring reliable transmission of data: *data link* and *transport* layers
   b. Interface to transmission media: *physical* layer
   c. Route determination: *network* layer
   d. Communicates directly with users application program: *application* layer

3. The first byte in binary is 10011011. The least significant bit is 1. This means that the pattern defines a multicast address. *A multicast address can be a destination address, but not a source address.* Therefore, the receiver knows that there is an error, and discards the packet.

4. Resend the frame after either 0s, 51.2μs, 102.4μs, or 153.6μs. ie 0 to 2^2-1.

5.

Protocols	Send window size	Receive window size
a. Stop-and-Wait ARQ	No window	No Window
b. Go-Back-N ARQ	32 – 1 = 31	1
c. Selective-Repeat ARQ	32/2 = 16	32/2 = 16

Part B **[8 + 16 + 16]**

1. Channel Access

   FDM, TDM, WDM, CDM, SDM

   FDMA, TDMA, CDMA, SDMA

   (or)

2. Explanation of Physical Layer, Network Layer and Transport Layer with OSI diagram

3. a. Converting data into manageable units of bits.

   Explanation of PPP and BISYNC with frame format.

   b. r1 →0

   r2 →0

r4 → 0

r8 → 0

Original word → 1110101

(or)

4. a. Data :1010011010 Divisor: 10111:

   CRC: 0001

   b. HDLC, Bit oriented Protocol with frame format, an example of bit stuffing

   SONET clock based framing

5. Explanation of sliding window protocol with the design of sender window and receiver window. Explanation of Go Back N and Selective Repeat ARQ.

   (Or)

6. Explanation of CSMA/CD . Frame format. Ethernet and its types.