SYCS/SEM IV/REG/COMPUTER NETWORKS

Time: 2½ hrs. **Marks:75**

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

Q.1 Answer the following (any four) **(20)**

(a) Write a note on STAR topology and RING topology.

(b) List and explain different causes of transmission impairments.

(c) What are the types of Data flow explain with diagram.

(d) Explain data representation in detail.

(e) Draw and explain components of data communication.

(f) Find the error if any in the following IPv4 addresses.

a) 151.56.045.78 b) 221.34.7.8.20 c) 75.45.505.14 d) 1101010010.23.14.67

e) abd.149.101010100.45

Q.2 Answer the following (any four) **(20)**

(a) If 7-bit hamming code received by a receiver is 1011011 assuming the even parity state whether the received code is correct or wrong. If wrong locate the bit in error.

(b) Generate the CRC code for the data word of 110010101 the divisor is 10101.

(c) Write a note on FDM ,TDM and WDM.

(d) Draw IPv4 header format.

(e) Explain Analog signal with its characteristics.

(f) What is digital signal? Explain with characteristics.

Q.3 Answer the following (any four) **(20)**

(a) Explain Go-back-N-ARQ and selective repeat request with diagram

(b) Differentiate between IPv4 and IPv6.

(c) Draw and explain IPv6 header format

(d) Find the class of following dotted decimal IPv4 addresses.

a) 192.168.1.0 b) 10.10.200.6 c) 172.15.165.1 d) 230.10.65.30

e) 105.15.243.19

(e) Write a note on Bluetooth.

(f) Write a note on Wi-Fi.

Q.4 Answer the following (any five) **(15)**

(a) Write causes of ICMP packet generation. (ICMP protocol)

(b) Describe HTTP protocol.

(c) Explain with header format of ARP protocol.

(d) Compare UDP & TCP.

(e) Find the checksum of the following message : 10110001 10101011 00110101 10100001.

(f) Write a note on Physical Layer and Data link Layer.

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