# BACHELOR OF INSTRUMENTATION & ELECTRONICS ENINEERING EXAMINATION, 2019
## (3rd Year, 2nd Semester)
### Computer Organization And Networking

*Time Allotted* : 3 Hours                                    Full Marks : 100

*The figures in the margin indicate full marks.*
*Candidates are required to give their answers in their own words as far as practicable.*

## GROUP – A
### (Long Answer Type Questions)
#### Answer any five of the following.                    16×5 = 80

1) Write down the similarities and differences between OSI and TCP/IP Model. Explain TCP/IP Protocol Suite with diagram. Explain Circuit Switching Process. Difference between Circuit and packet switching. Explain the significance of bus topology.
$$3+4+4+3+2$$

2) Write down the significance of ALOHA Protocol. Explain Slotted ALOHA Protocol. Explain Go-Back-N ARQ Protocol with proper Diagram. What is the advantages of optical fibre cable over twisted pair.                    2+5+5+4

3) Explain FTP working principle and how different connection works in FTP? What is SMTP and what is it's significance. What is Domain Name System explain with hierarchical structure of DNS with significance.                    6+4+6

4) What is Hamming Code and explain the process of finding hamming distance. Given a 10 bit sequence 1010011110 and a divisor of 1011. Find the CRC for sender and receiver side and check any error is present or not in both sides. What is subnetting and supernetting with example.                    ( 2+4)+6+4

5) Explain Link State Routing Process with example. Difference between Classfull and Classless addressing scheme. What is DHCP and explain it's significance. What is the function of RIP, OSPF Protocol.                    5+3+4+4

6) What is the significance of Von-Neumann Bottle Neck. What is instruction and machine cycle. Explain Carry-Look Adder Circuit and find out the expression of carry generate and propagate from it. Explain Flynns Classification of computer's.
$$3+2+6+5$$

7) Explain Memory Hiearchy. What is associative memory. What do you mean by Cache hit ratio and Cache access time. How many 256*4 RAM chips are required to provide a memory capacity of 2048 bytes. Show the interconnection diagram. What is CISC.

4+2+3+5+2

8) What is pipelining. What is pipeline throughput, speed up explain with mathematical formulae. What are arithmetic and instruction pipeline. Explain Different Addressing Modes. What is paging.

2+4+4+4+2

## GROUP B

### ( Long Answer Type Questions)

Answer any *four* of the following.           4×5 = 20

9) Difference between LAN and WAN. Difference between Half and Full Duplex.(2+3)

10) Write the difference between bit stuffing and character stuffing.           5

11) Explain Microprogram Control Operation briefly with diagram.           5

12) Explain IP Header Format with proper diagram.           5

13) What are the significant role of hub and gateway in network connectivity. What is the role of repeater.           3+2

14) X=(P+Q)*(R-S)/T write one , two and three address codes for this instruction.     5