Roll No. .....

OLE-97679

BCA 5th Semester (New) Examination – April, 2021

DATA COMMUNICATION AND NETWORKING

Paper : BCA-303

Time : Three Hours] ***[Maximum Marks : 80***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. **1** is ***compulsory***. Attempt any ***four*** questions from the remaining four Units, selecting at least ***one*** question from each Unit. All questions carry equal marks.

1. (a) What is web based model ? Explain.

(b) What is internet and its uses ?

(c) What is ATM ? Explain.

(d) What is DSL service ? Explain.

(e) What do you mean by Digital carrier systems ?

(f) What do you mean by random access control ?

(g) What do you mean by Security threats ?

(h) Explain the uses of communication satellites.

UNIT – I

2. Explain the following in detail :

(a) Frame Relay

(b) Guided and Wireless Transmission media

3. (a) What is TCP/IP ? Explain the functions of various layers of it in detail.

(b) What is X.25 ? Explain in details. Also list the types of packet formats supported by it.

UNIT – II

4. (a) What do you mean by Asynchronous and synchronous transmission ? Explain.

(b) What is Data encoding ? Explain the data encoding techniques in detail.

5. (a) What is Data modulation ? Explain its techniques in detail.

(b) What is Network hardware components ? Explain the uses of repeaters, Hubs, bridges and switches in detail.

UNIT – III

6. Explain the following in detail :

(a) Switched and Fast Ethernet

(b) FDDI and token ring

7. (a) What do you mean by Error-detection and correction code ? Explain in detail.

(b) What do you mean by framing ? How is it useful and used ? Explain in detail.

UNIT – IV

8. Explain the following in detail :

(a) Symmetric -key Algorithms and Public key Algorithms

(b) Routing Algorithms

9. Explain the following in detail :

(a) Congestion Controls Algorithms

(b) Virtual circuits and Datagrams