This question paper contains 2 printed pages. Roll No. .....

303/333

B.C.A. (Part-III) EXAMINATION - 2022

(Faculty of Science)

(Three-Year Scheme of 10+2+3 Pattern)

NETWORKING TECHNOLOGIES

Time Allowed : 3 Hours Maximum Marks : 100

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

No supplementary answer-book will be given to any candidate. Hence the candidates should write the answer precisely in the main answer-book only.

Write your roll number on question paper before start writing answers of questions.

Question paper consists of **three** parts.

All three parts are compulsory.

PART - I : (Very short answer) consists **10** questions of **2** marks each. Maximum limit for each question is upto **40** words.

PART - II : (Short Answer) consists **5** questions of **4** marks each. Maximum limit for each question is upto **80** words.

PART - III : (Long Answer) consists **5** questions of **12** marks each with internal choice.

PART - I

1. Attempt **all** questions. Each question carries **2** marks. **10x2=20**

(a) What are components of Network ?

(b) What is Transmission Mode ?

(c) Differences between Half-duplex and Full-duplex modes.

(d) What is Bandwidth ?

(e) Difference between Bridge and Router.

(f) Define scope of UDP protocol.

(g) What is Switching Network ?

(h) What is Packet Switching ?

(i) What are types of Fiber cable losses ?

(j) List any five applications of Satellite Communication.

PART - II

2. (a) Explain types of Networks. **5x4=20**
   (b) Explain Checksum error detection technique.
   (c) Differentiate between Asynchronous and Synchronous transmission.
   (d) Explain role and working of DNS.
   (e) Explain Satellite Microwave Communication briefly.

PART - III

3. Discuss Network Architecture in detail. **12**

   OR

   What is meant by Network Topology ? Explain various types of Network Topologies with merits and demerits. **12**

4. Discuss OSI model with functions of each layer. **12**

   OR

   Explain Link Routing algorithm in detail. **12**

5. Discuss TCP/IP suite with the help of layered diagram. **12**

   OR

   Write short note on the following protocols : **3x4=12**
   (a) UDP
   (b) TCP
   (c) ARP

6. Explain Space Division Switching technique. **12**

   OR

   Discuss Packet switching transmission technique. **12**

7. Write short note on **any three** of the following : **3x4=12**
   (a) Optical Fiber Communication
   (b) Integrated Services Digital Network (ISDN)
   (c) Terrestrial Microwave Transmission
   (d) DSL : Digital Subscriber Line
   (e) Geostationary Satellites
   (f) Encoded Data Formats

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