

**B.C.A. (Pt.-III)**

Netw. Tech.

**303/333**

**B.C.A. (Part-III) Examination, 2023**

(Faculty of Science)

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

**Networking Technologies**

**Paper : 303/333**

**Time Allowed : 3 Hours**

**Maximum Marks : 100**

Answer of all the questions (Short answer as well as 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.

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

Question paper consists of **Three** parts.

**All Three** parts are **Compulsory**

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

**PART-II :**(Short answer) consists of 5 questions of 4 marks each, Maximum limit for each question is up to 80 words.

**PART-III :** (Long answer) consists of 5 questions of 12 marks each with one question from each unit with internal choices.

**PART-I**

1. Attempt all questions. Each question carries 2 marks.

10×2=20

✓(a) What is Line Configuration in a Network?

✓(b) Write any two differences between LAN and WAN?

✓(c) What is Bandwidth and Data Rate?

✓(d) What do you mean by Network Protocols?

✓(e) What is Telnet?

✓(f) Explain MIME Protocol.

✓(g) What do you understand by Multiplexing?

✓(h) What is the difference between Asynchronous and Synchronous Transmission?

✓(i) What is a Satellite?

✓(j) What are the benefits of Optical Fiber Communication?

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## PART-II

2. (a) Briefly explain the Key Components of Data Communication. 5×4=20  
(b) Explain Router and Gateway.  
(c) Explain the layers of TCP/IP Protocol with proper diagram.  
(d) What is Time Division Switching? Explain.  
(e) Briefly explain the multiple layers used in SONET Protocol.

## PART-III

3. What do you mean by Network Topologies? Explain the types of topologies used in networking with proper diagram. 12

Or

- What are the types of Transmission Media? Explain each of them with proper diagram. 12

4. Explain the OSI reference model in detail. 12

Or

- Define the term error detection. Explain Cyclic Redundancy Check (CRC) with example. 12

5. Write the differences between following : 6×2=12

(a) IPV4 and IPV6 protocol.

(b) TCP and UDP.

Or

- Explain the following : 3×4=12

(a) DNS

(b) SMTP

(c) HTTP

6. What is Switching and explain the different types of Switching Techniques? 12

Or

- What is Modem? Explain Modulation and Demodulation process of Modem. 12

7. Describe Geo-synchronous Satellites. 12

Or

- Explain the mechanism of light propagation in optical fiber cable. 12

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