

B.C.A. (Part-III)

Net. Tech.

303

B.C.A. (Part-III) EXAMINATION, 2020

(Faculty of Science)

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

NETWORKING TECHNOLOGIES

Time Allowed : Three 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. Answer 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 of 10 questions of 2 marks each. Maximum limit for each question is upto 40 words.*

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

PART - III : *(Long answer) consists of 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 the advantages of using network ?
- (b) What is Network Topology ?
- (c) What are the different types of networks ?
- (d) What are the different data transmission modes ?
- (e) What is Bandwidth ?
- (f) What is the difference between Asynchronous and Synchronous transmission ?
- (g) What is TCP/IP ?
- (h) What is DHCP ?
- (i) What is DNS ?
- (j) What is Multiplexing ?

PART - II

2. Attempt all questions. Each question carries 4 marks.

5x4=20

- (a) What is the difference between Analog Signal and Digital Signal ? Also discuss their characteristics.
- (b) What are the types of transmission media ?
- (c) What is the difference between Unicast, Broadcast, Multicast and Anycast ?
- (d) What is the difference between Peer-to-Peer Networks and Server-based Networks ?
- (e) Explain the advantages and disadvantages of Microwave Communication.

PART - III

3. (a) Discuss different Network Topologies with their advantages and disadvantages. 12

OR

(b) Discuss different components of data communication network. Also discuss different types of network architecture ? 10+2=12

4. (a) Explain the OSI Reference model in detail. 12

OR

(b) What is Congestion ? Discuss Leaky Bucket Algorithm and Token Bucket Algorithm for congestion control. <https://www.uoronline.com> 12

5. (a) Differentiate between the following : 6+6=12

- (i) Static and Dynamic Routing
- (ii) IPv4 and IPv6

OR

(b) Write short notes on the following : 3x4=12

- (i) Telnet
- (ii) SMTP
- (iii) FTP

6. (a) Describe in detail about circuit switching network and its merits and demerits. 12

OR

(b) Explain in detail Time Division Multiplexing (TDM) with their advantages and disadvantages. 2+4+6=12

7. (a) What is the need of Satellite Communication ? How a Satellite works ? Also discuss applications of satellite communication. 3+6+3=12

OR

(b) Write short notes on the following : 6+6=12

- (i) Light propagation in optical fiber
- (ii) SONET

- o O o -