

4E1307

Roll No. [REDACTED]

Total No. of Pages: 2

4E1307

B. Tech. IV - Sem. (Main) Exam., - 2022

Computer Science & Engineering

4CS4 – 07 Data Communication and Computer Networks

CS, IT, AID, CAI

Time: 3 Hours

Maximum Marks: 70

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Instructions to Candidates:

Attempt all ten questions from Part A. Five questions out of seven questions from Part B and three questions out of five from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. NIL

2. NIL

PART – A

(Answer should be given up to 25 words only)

[10×2=20]

All questions are compulsory

~~Q.1~~ What is Data Communication?

~~Q.2~~ Differentiate Analog and Digital signals.

~~Q.3~~ What is ALOHA?

~~Q.4~~ Define Piggybacking.

~~Q.5~~ What is Tunneling?

~~Q.6~~ Write any two differences between classful and classless addressing.

~~Q.7~~ Write features of UDP.

~~Q.8~~ Write uses of Leaky Bucket Algorithm.

~~Q.9~~ What is SMTP?

~~Q.10~~ Draw Header format of HTTP reply message.

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PART – B

(Analytical/Problem solving questions)

[5×4=20]

Attempt any five questions (Word limit 100)

- ~~Q.1~~ Explain OSI reference model with neat diagram.
- ~~Q.2~~ Describe Go Back N protocol.
- ~~Q.3~~ Explain, how congestion is controlled at network layer?
- Q.4 Draw and explain TCP header format in detail.
- Q.5 Explain DNS and its working.
- Q.6 What is the purpose of Subnetting? Explain the use of masking in Subnetting.
- ~~Q.7~~ Explain the various network topologies in detail.

PART – C

(Descriptive/Analytical/Problem Solving/Design Questions)

[3×10=30]

Attempt any three questions

- Q.1 Explain the working of the following CSMA protocols in detail.
- (a) Persistent
 - (b) Non – Persistent
 - (c) P – Persistent
- ~~Q.2~~ Explain IPv4 Header format in detail. Compare it with IPv6.
- ~~Q.3~~ Describe File Transfer Protocol (FTP) with suitable diagram. Explain SNMP.
- ~~Q.4~~ Explain types of sliding window ARQ error control. How do they differ from each other?
- Q.5 What are three way handshaking protocol in TCP? Explain, why connection termination in TCP is symmetric, whereas connection establishment is not?

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