RAJARSHI JANAK UNIVERSITY
OFFICE OF THE CENTRAL EXAMINATION
End Semester Examination, 2022

Bachelor of Science in Computer Science and Information Technology
Course Title: Data Communication and Computer Network
Course Code: SCIT-205
Year/Semester: Second/ III

Full Marks: 60
Pass Marks: 24
Time: 3 hours

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

[Group A]

Very short answer questions: **[5x2 = 10]**

1. What is attenuation?
2. Define CSMA.
3. What is pure ALOHA and Slotted ALOHA?
4. Differentiate between IPV4 and IPV6.
5. Define Cryptography

[Group B]

Short answer questions: (Attempt any Six) **[6x5 = 30]**

6. Differentiate between Go-Back-N-ARQ and Selective-Repeat-ARQ.
7. Explain about leaky bucket algorithm.
8. Differentiate between Packet Switching and Circuit Switching.
9. List and explain the two basic types of ISDN Services.
10. Define Data Communication. Explain different types of Guided media with examples.
11. Explain various error detection and correction mechanism used in computer network.
12. Write short notes on:
    a. Distance Vector Routing Protocol
    b. Multiplexing

twisted pair eg missing

[Group C]

Long answer questions: (Attempt any Two) **[2x10=20]**

13. Draw and explain the OSI reference model for network.
14. What is framing? List all methods used for framing and explain any two methods used for framing in detail.
15. Subnet the class C IP address 195.1.1.0 so that you have at least 2 subnets each subnet must have room for 48 hosts. What are the two possible subnet masks?

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RAJARSHI JANAK UNIVERSITY
OFFICE OF THE CENTRAL EXAMINATION
End Semester Examination, 2022

Bachelor of Computer Application
Course Title: Data Communication and Computer Networking — **Full Marks: 60**
Course Code: HCAC: 205 — **Pass Marks: 24**
Year/Semester: Second /III — **Time: 3 hours**

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

[Group B]

Short questions (any six): **[6x5=30]**

11. Distinguish between IPV4 and IPV6.
12. State and explain security mechanism related to data confidentiality and data integrity.
13. What is IP address? Find out the class Network ID, Host ID for the given IP address (156.26.30.32).
14. Differentiate between Guided Media and Unguided Media.
15. What is Distance Vector Routing Protocol? Explain with example.
16. Describe the role of SMTP and HTTP
17. Write short notes on:
    a. Packet Switching
    b. Checksum

[Group C]

Long questions (any two): **[2x10=20]**

18. What is Classful addressing? Discuss Class A, Class B, Class C, Class D and Class E address with its range in decimal dotted notation and example.
19. What is Sliding Window? Explain Go back N protocol in detail
20. Why layered architecture is preferred in communication? Explain OSI model in detail.

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Rajarshi Janak Universty
University Campus
First Internal Assessment

Second Year/First Semester
Program: BSc.CSIT
Subject: Data Communication and Computer Networking
Time: 1:30 hrs

Year: 2076
Full Marks: 30
Pass Marks: 12

Group A

Very short Questions:
Attempt all Questions 5x1=5

1. The data link layer takes the packet from network layer and encapsulates them into frame for transmission
2. Which of the following task is not done by data link layer?
   a. Framing
   b. Flow Control
   c. Error Control
   d. Channel Coding
3. CRC stands for
   a. Cyclic Redundancy Check
   b. Code redundancy Check
   c. Code Repeat Check
   d. Cyclic Repeat Check
4. Which data communication method is used to send data over a serial communication link?
   a. Simplex
   b. Full duplex
   c. half-duplex
   d. all of these
5. In OSI network architecture, the routing is performed by
   a. Data link layer
   b. Transport layer
   c. Network layer
   d. Session layer

Group B

Short Questions:
Attempt all Questions 5x3=15

1. Why computer network is important? Differentiate between Go-Back-N-ARQ and Selective-Repeat ARQ.
2. What are the services provided by data link layer? Explain any one methods of framing and flow control.
3. Define Data Communication. Explain about TCP/IP .
4. Explain the working principle of different types of network devices Repeater, Switch and Router.
5. What is bit stuffing? Why it is done explain with an example.

Group C

Long Questions:
Attempt any Two 2x5=10

1. What do you mean by OSI model? Explain functionalities of each layer.
2. Explain the guided and unguided transmission media and compare it with examples.
3. What is multiplexing? Explain about TDM and FDM.