PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Sixth Semester)

Branch – **INFORMATION TECHNOLOGY**

DISCIPLINE SPECIFIC ELECTIVE - II: TCP/IP

Time: Three Hours | Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1 Which layer of the OSI model is responsible for end-to-end communication and error recovery?
(i) Physical Layer (ii) Transport layer
(iii) Network layer (iv) Data link layer

2 What is the primary purpose of the IP protocol in networking?
(i) Ensuring physical connectivity
(ii) Facilitating end-to-end communication between devices
(iii) Managing network hardware components
(iv) Providing secure data transmission

3 What is the main characteristic of UDP (User Datagram Protocol)?
(i) Connection-oriented (ii) Reliable and error-checked
(iii) Connectionless and unreliable (iv) Always encrypted

4 What is Telnet primarily used for in networking?
(i) File transfer (ii) Remote login
(iii) Email communication (iv) Web browsing

5 What is the primary motivation behind the development and implementation of IPv6?
(i) Increased data transfer speed (ii) Enhanced security features
(iii) Larger address space (iv) Improved routing algorithms

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a Briefly describe Wired Local Area Network.
OR
b Explain about point to point WANs.

7 a Write a summary of the Wired Local Area Network.
OR
b Outline the use of IP Packets.

8 a State the level of UDP Servlet in network.
OR
b Describe the TCP services in detail.

Cont...

9 a Analyze security issues in the Telnet protocol.

OR

b How does Telnet outbound signaling work?

10 a Write short notes packet format.

OR

b Give a brief overview of IPv4 and IPv6.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11 a Discuss the functions and responsibilities of each layer in the OSI model.

OR

b Explain the main types of addresses used in computer networks.

12 a Summarize the concept of datagram fragmentation.

OR

b Examine the purpose of subnetting in IPv4.

13 a Describe the connection establishment process in UDP. How does it differ from TCP?

OR

b Illustrate the distinct states and transitions inherent in the lifecycle of a TCP connection.

14 a Explain Network Virtual Terminal in TELNET.

OR

b Outline the process of establishing an FTP connection.

15 a Discuss about IPV6 protocol.

OR

b Explain how Extension Headers are utilized in the IPv6 packet structure.

Z-Z-Z END