

**B4.5-R4 : INTERNET TECHNOLOGY AND WEB SERVICES****NOTE :**

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

**Time : 3 Hours****Total Marks : 100**

1. (a) What is the Web service protocol stack ?  
 (b) Draw and explain 3-tier Web architecture.  
 (c) Briefly explain Web security threats.  
 (d) What is HTTP ? Differentiate between persistent and non-persistent types with request-response behavior of HTTP.  
 (e) Compare IPv4 and IPv6.  
 (f) Briefly explain the working of SMTP.  
 (g) Define Firewall. List and explain the features of a firewall. (7×4)
  
2. (a) What is an Array ? List and explain different types of array supported by PHP.  
 (b) Using XML, design a program for a student information system. Assume appropriate elements like: Student Id., Student Name, Address, email-id and mobile No. etc. Apply appropriate validation using DTD.  
 (c) Create a JSP Page to illustrate the use of query string for HttpRequest object. **(6+6+6)**
  
3. (a) Explain JPEG file encoding process.  
 (b) Differentiate between Client-side scripting and Server-side scripting language.  
 (c) Explain functionality of Repeater, Router, Bridges, Switches and Gateway. **(6+6+6)**
  
4. (a) Write a PHP code which insert student\_id, student\_name, department and semester into database tblStudentInfo using HTML form and display all student records using search function.  
 (b) Write the HTML code for creating the following layout.

Product ID	Product Name	Quantity	Price
1	HP	1	\$500
2	DELL	5	\$500
<b>Total</b>			<b>\$1,000</b>

**(10+8)**

5. (a) Explain Three-Way Handshake Mechanism used by TCP to terminate a Session reliably.
- (b) Differentiate between Multicasting and Multicast routing. Explain the role of IGMP in multicasting.
- (c) Define VOIP and H.323 protocol. Describe IEEE 802.3(Ethernet) header format. **(6+6+6)**
6. (a) What is SOAP ? Explain SOAP envelope, header and body messages in detail.
- (b) List out OSI layers and differentiate between TCP and UDP. **(9+9)**
7. (a) What is Web Service ? Explain structure of WSDL file.
- (b) List and explain different types of Firewall in details. **(10+8)**

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