Total No. of Printed Pages : 7

Subject Code : 34

B26-CS (E) (Th)

1049

2026

COMPUTER SCIENCE (E)

(Theory)

Full Marks : 70
Pass Marks : 21

Time : 3 hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer : **1 × 4 = 4**

(a) _____ is a protocol for mapping an IP address to a physical MAC address.

(i) TCP

(ii) IP

(iii) ARP

(iv) POP

(b) Which of the following is used to define the style for many web pages ?

(i) Internal CSS

(ii) HTML

(iii) Inline CSS

(iv) External CSS

(c) The _____ wild card allows finding a match for any single character.

(i) *

(ii) %

(iii) #

(iv) _

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(d) A _____ is a user defined blue print or prototype from which objects are created.

(i) pointer

(ii) function

(iii) class

(iv) datatype

2. Fill in the blanks : $1 \times 4 = 4$

(a) The _____ is mainly designed for addressing packets.

(b) The _____ tag indicates the beginning and end of the HTML documents.

(c) _____ commands can only be used with DML commands like INSERT, DELETE and UPDATE only.

(d) _____ displays only the important information by hiding the implementation part.

3. State whether the following statements are **true** or **false** : $1 \times 4 = 4$

(a) The ipconfig command is used to display the list of IP address and their corresponding MAC addresses.

(b) The number of columns denotes the cardinality of the table

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(c) The testing expression contains all the statements we want to execute before entering the loop.

(d) A pointer is a variable which stores the value of another variable.

4. Answer the following questions in **one** word each : $1 \times 8 = 8$

(a) It is used to define the style for a single web page. What is it called ?

(b) It is the process of changing a value from one datatype to another in a programming language, allowing the programmer or compiler to interpret a value in a different way. What is it called ?

(c) It can be used for performing calculations on the table values in MySQL. What is it called ?

(d) This server maintains a pool of IP address and based on a request, it assigns an IP address from the pool to a computer. What is the name of the server here ?

(e) These are used to group related contents together in a structured manner. What are these called ?

(f) It is represented as eight groups of four hexadecimal digits of 16 bits each, where groups are separated by colons. What is it called ?

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(g) It is a user interface control that serves as the point of connection between the user and the server. What is it called ?

(h) It is a programming feature that allows programmers to define the behaviour of existing operators (like +, –, *, = =) for custom user defined datatype (class & objects). What is it called ?

5. Answer the following questions : $2 \times 12 = 24$

(a) What is the use of Router ?

(b) What is Web Programming ?

(c) What are the characteristics by which we can determine the datatype of MySQL ?

(d) What are the disadvantages of an array ? Can we declare without accessing the size of an array ?

(e) What are the basic HTML tags used to display the data in tabular form ?

(f) What is ARP ?

(g) What is the use of ORDER BY clause in MySQL ?

(h) What does sizeof( ) mean ?

(i) What is polymorphism ?

(j) What is void main( ) in C ?

(k) What are the functions we can do with ALTER TABLE ?

(l) What is type casting ?

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6. Answer the following questions : $3 \times 3 = 9$

(a) What are the different aggregate functions with example ?

(b) Draw a flow chart for calculating total number of even numbers from a series of numbers.

(c) Differentiate between caller and callee functions. Write a small C program and identify the caller and callee function in it.

7. Answer the following questions : $4 \times 3 = 12$

(a) What are the different types of HTML controls ?

(b) Write a C program using a for loop to evaluate the following expression :

SUM = 1 + 2 + 3 + 4 + ... + N

(Here, N is an input from the user)

(c) Write a C program to display the following patterns using nested loop construct :

1

1 2 1

1 2 3 2 1

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8. Consider the following table named "Product", showing details of products being sold in a Grocery shop :

PCode	P Name	UPrice	Manufacturer
P01	Washing Powder	120	Surf
P02	Toothpaste	54	Colgate
P03	Soap	25	Lux
P04	Toothpaste	65	Pepsodent
P05	Soap	38	Dove
P06	Shampoo	245	Dove

Write SQL queries for the following : **2 + 1 + 1 + 1 = 5**

(a) Create the table Product with appropriate data types and constraints.

(b) Identify the primary key in Product.

(c) List the Product code, Product name and Price in descending order of their Product name. If P Name is the same, then display the data in ascending order of price.

(d) Add a new column Discount to the table Product.

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