SECOND YEAR HIGHER SECONDARY SECOND TERMINAL EXAMINATION
DECEMBER 2024
ANSWER KEY
SUBJECT: COMPUTER APPLICATION

1-Mark Questions (Answer any 5)

1. **In C++, array subscript starts with:**
   Answer: 0
2. **The variables used in the function definition as arguments are known as...............................arguments**
   Answer: Formal arguments
3. **The port number of HTTP:**
   Answer: 80
4. **Expand FTP:**
   Answer: File Transfer Protocol
5. **The number of rows in a relation is called.............................**
   Answer: Cardinality
6. **Pick the odd one out: CREATE, SELECT, UPDATE, INSERT**
   Answer: CREATE

2-Mark Questions (Answer any 9)

7. **Distinguish between break and continue statement in C++:**
   Answer:
   - break: Terminates the loop or switch statement.
   - continue: Skips the rest of the code in the loop for the current iteration.
8. **When does the default statement execute in a switch statement in C++?**
   Answer: When no case matches the expression.
9. **Rewrite the following C++ statement into if...else statement:**
   max = (a > b) ? a : b;
   Answer:
   if (a > b)
     max = a;
   else
     max = b;
10. **Define array traversal:**
    Answer: Accessing each element of an array at least once to perform any operation is known as traversal operation.
11. **Write the header files needed for the following C++ functions:**
    - **strcpy**(): <cstring>
    - **toupper**(): <cctype>
    - **abs**(): <cmath>
    - **write**(): <iostream>

12. **Differentiate between cellspacing and cellpadding:**
    Answer:
    - o cellspacing: Space between table cells.
    - o cellpadding: Space between the cell border and the content inside.
13. **Explain any two attributes of <TH> and <TD>:**
    Answer:
    - o <TH>: colspan (merges columns), align (aligns text).
    - o <TD>: rowspan (merges rows), align (aligns text).
14. **Write any two advantages of writing a script in a separate file:**
    Answer:
    - o Increases code reusability.
    - o Improves maintainability and readability.
15. **Explain the string addition operator in JavaScript:**
    Answer: The + operator concatenates two strings. Example: "Hello" + " World" results in "Hello World".
16. **Define Virtual Private Server (VPS):**
    Answer: : A Virtual Private Server (VPS) is a physical server that is virtually partitioned into several servers using the virtualization technology.
17. **Define Alternate Key and Foreign Key:**
    Answer:
    - o Alternate Key: A candidate key not chosen as the primary key.
    - o Foreign Key: A column that references the primary key of another table.
18. **Differentiate the SQL commands DROP and DELETE:**
    Answer:
    - o DROP: Deletes the entire table or database structure.
    - o DELETE: Removes specific rows from a table.

3-Mark Questions (Answer any 9)

19. **Differentiate the following C++ array initialization statements:**
    char str[20] = "Computer";
    char str[] = "Computer";
    Answer:
    - o The first initializes an array with a fixed size of 20, padding unused spaces.
    - o The second automatically adjusts the size to the content length (8 characters).
20. **Merits and demerits of modular programming:**
    Answer:
    - o **Merits:** Code reusability, easier debugging, and better organization.
    - o **Demerits:** Requires proper planning and module integration can be complex.
21. **Explain any three attributes of <FONT> tag:**
    Answer:
    - o color: Sets the text color.
    - o size: Specifies font size.
    - o face: Defines font style (e.g., Arial).
22. **Write six formatting tags and their uses in HTML:**
    Answer:
    - o <b>: Bold text.

- o ⟨i⟩: Italics text.
- o ⟨u⟩: Underlined text.
- o ⟨sup⟩: Superscript text.
- o ⟨sub⟩: Subscript text.
- o ⟨font⟩: Customizes font size, color, and style.

23. **What is a hyperlink? Which tag is used? List two types of hyperlinks:**
    Answer:
    - o Hyperlink: A link to another resource.
    - o Tag: ⟨a⟩.
    - o Types: internal linking and external linking

24. **Explain the following HTML tags:**
    (a) ⟨SELECT⟩:
    Answer: The ⟨SELECT⟩ tag is used to create a dropdown list where users can choose one or more options from a list of predefined choices.
    (b) ⟨FIELDSET⟩:
    Answer: The ⟨FIELDSET⟩ tag groups related form elements, usually accompanied by a legend that provides a caption or title for the group.
    (c) ⟨TEXTAREA⟩:
    Answer: The ⟨TEXTAREA⟩ tag creates a multi-line text input area, allowing users to input larger amounts of text..

25. **Explain the three basic data types in JavaScript:**
    Answer:
    - o Number: Represents numeric values.
    - o String: Represents text.
    - o Boolean: Represents true/false.

26. **Write the value of variable y in the following :**
    (a) x = "JavaScript"; y = x length;
    Answer: y = 10 (The length property returns the length of the string "JavaScript", which is 10 characters long.)
    (b) x = "JavaScript"; y = x.charAt(4);
    Answer: y = "S" (The charAt(4) method returns the character at the 4th index, which is "S")
    (c) x = "JavaScript"; y = isNaN(x);
    Answer: y = 1 (The isNaN(x) function returns true(1) because "JavaScript" is a string and not a number, so it is considered "Not a Number").

27. **What is Content Management System (CMS)? Give two examples:**
    Answer:
    - o CMS: Software used to create, manage, and modify website content.
    - o Examples: WordPress, Joomla.

28. **What are the duties of a Database Administrator (DBA)?**
    Answer: The person has control over the centralized and shared data in a DBMS.
    He is responsible for,
    a). Design of the physical and conceptual Schemas.
    b). Security and authorization.
    c). Data availability and recovery from failures.

29. **Define View in SQL. What is command to create a view?**
    Answer: View: A view is a virtual table which is derived from one or more tables.
    Command: CREATE VIEW view_name AS SELECT column1, column2 FROM table_name;
    Eg: CREATE VIEW Student1 AS SELECT * FROM STUDENT Where Course='Science ';

5-Mark Questions (Answer any 2)

30. **HTML Code to create the given web page:**
    Answer:
    <html>
    <head><title>Components of Computer</title></head>
    <body>
    <h1>Components of Computer</h1>
    <ul>
    **
Hardware
**
    <ol>
    **
I/O Devices
**
    **
RAM
**
    **
Hard Disk
**
    **
**
    **
Software
**
    <ol>
    **
Operating System
**
    **
Application Software
**
    **
**
    **
**
    </body>
    </html>

31. **Explain the advantages of DBMS:**
    Answer:

- **Reduces data redundancy**: In a DBMS, data is stored only once, minimizing duplication and redundancy.
- **Ensures data consistency**: DBMS enforces rules like constraints to maintain data integrity and consistency across the database.
- **Provides data security**: DBMS offers access control, authentication, and roles to ensure that only authorized users can access the data.
- **Facilitates data sharing**: Multiple users can access and share data efficiently, ensuring proper access control.
- **Supports backup and recovery**: DBMS ensures that data is backed up and recoverable, minimizing data loss during failures.

32. **Define Constraints. Explain any four column constraints:**
    Answer:
    Constraints: Rules applied to ensure the integrity and accuracy of data in a database.
    Types of Constraints:
    1. **NOT NULL**: Ensures that a column cannot have null (empty) values.
    2. **UNIQUE**: Ensures that all values in a column are unique.
    3. **PRIMARY KEY**: A combination of NOT NULL and UNIQUE to uniquely identify rows in a table.
    4. **DEFAULT:**- This constraint is used to specify a default value for a column.