SECOND YEAR HIGHER SECONDARY MODEL EXAMINATION FEBRUARY 2024
COMPUTER SCIENCE ANSWER KEY(Unofficial by Team Hsslive.in)

1. Nested structure
2. (b) bgcolor
3. (b) Virtual Private Server
4. Foreign Key
5. (b) Group by
6. (d) www.amazon.com

7.   **Static Memory Allocation:** The memory allocation that takes place before the execution of the program is known as static memory allocation.
        Dynamic Memory Allocation: Memory is allocated during the execution of the program.

8.   struct Time
        {
                int hour;
                int minute;
                int second;
        };

9.   **Polymorphism:** The ability to process objects differently depending on their data type or class.
 Compile time (Static) polymorphism (or early binding) & Run time (Dynamic) polymorphism (or late binding)

10. Depending upon memory allocation, data structures may be classified as static data structures and dynamic data structures.
        Static Data Structure: Memory allocation is fixed for static data structures (eg: arrays) and the size cannot be changed during execution.
        Dynamic Data Structure: Memory is allocated during execution for dynamic data structures (eg: linked list) and the size changes according to the addition or deletion of data items.

11.   **Stack overflow:** Once the stack is full and if we attempt to insert an item, an impossible situation arises, known as stack overflow.
        Stack underflow: If we try to delete an item from an empty stack, an unfavourable situation arises, known as stack underflow.

12. (Write Any two Comparisons)

Static web page	Dynamic web page
The content and layout of a web page is fixed.	The content and layout may change during run time.
Static web pages never use databases.	Database is used to generate dynamic content through queries.
Static web pages directly run on the browser and do not require any server side application program.	Dynamic web page runs on the server side application program and displays the results.
Static web pages are easy to develop.	Dynamic web page development requires programming skills.

13. align, valign, bgcolor, colspan, rowspan(any 4)

14.   (a) <A href="path of the html page"><IMG src="image file">
        (b) <embed src="song.mp3"></embed>

15. (Write Any Two)

EVENT	Description
onClick	Occurs when the user clicks on an object
onMouseEnter	Occurs when the mouse pointer is moved onto an object
onMouseLeave	Occurs when the mouse pointer is moved out of an object
onKeyDown	Occurs when the user is pressing a key on the keyboard
onKeyUp	Occurs when the user releases a key on the keyboard
OndblClick	Occurs on double clicking the mouse button
onMouseWheel	Occurs on rotating the mouse wheel
onSubmit	Occurs on submitting a form

16. The ability to modify the schema definition (data structure definition) in one level without affecting the schema definition at the next higher level is called data independence.
There are two levels of data independence – Physical data independence and Logical data independence.

17. Cost savings, Flexibility, Reliability, Mobile accessibility. (Write Any Two)

18. A problem is divided among various CPUs. The calculations are carried out simultaneously. The memory is shared by all the CPUs.

19.   (a) **Memory leak:** If the memory allocated using new operator is not freed using delete, that memory   is said to be an orphaned memory block. This memory block is allocated on each execution of the   program and the size of the orphaned block is increased. Thus a part of the memory seems to   disappear on every run of the program, and eventually the amount of memory consumed has an   unfavourable effect. This situation is known as memory leak.

     (b) **new operator:** is used for allocating memory dynamically.

     (c) **Pointer:** is a variable that can hold the address of a memory location.

20. Procedural oriented programming consists of a set of instructions and organizes these instructions to functions.
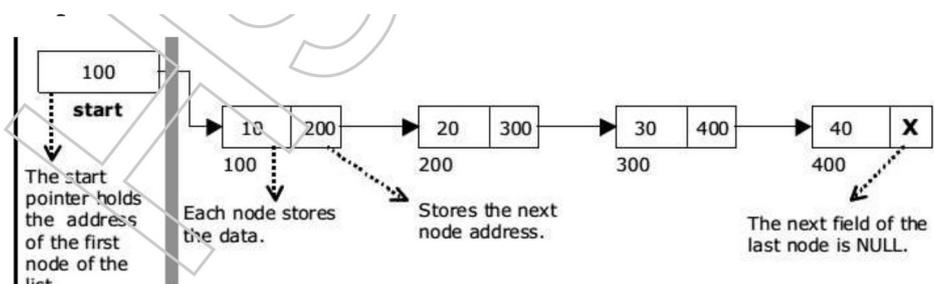   **Disadvantages**
     Data is undervalued.
     Procedure is given importance.
     Creating new data types is difficult.
     Poor real world modelling.

21. Linked list is a collection of nodes, where each node consists of two parts – a **data** and a **link**. Link is a pointer to the next node in the list. The address of the first node is stored in a special pointer called START. Linked list is a dynamic data structure. Memory is allocated during run time.

22. (Write any 3 Comparisons)

Client side scripting V/s Server side scripting

Client side scripting	Server side scripting
Script is copied to the client browser	Script remains in the web server
Script is executed in the client browser	Script is executed in the web server and the web page produced is returned to the client browser
Client side scripts are mainly used for validation of data at the client.	Server side scripts are usually used to connect to databases and return data from the web server
Users can block client side scripting	Server side scripting cannot be blocked by a user
The type and version of the web browser affects the working of a client side script	The features of the web browser does not affect the working of server side script

23.   (a) Change UL tag to OL
                        `<OL Type="A" start=5>`

      (b) Opening `<i>` tag missing.
                        `<h1><i><b>web programming</b></i></h1>`

      (c) Frame tag missing.

```
<frameset rows="50%,25%,25%">
    <frame src="1.html">
    <frame src="2.html">
    <frame src="3.html">
</frameset>
```

24.   (i) **Number:** All numbers fall into this category.
      (ii) **String:** Any combination of characters, numbers or any other symbols, enclosed within double quotes.
      (iii) **Boolean:** Only two values fall in this type. They are true and false.

25.   (a) "JAVASCRIPT".toLowerCase();
      (b) "JAVASCRIPT".length;
      (c) "JAVASCRIPT".charAt(2);

26. There are three types of web hosting – shared hosting, virtual hosting and dedicated hosting.
     (i) **Shared hosting:** Many different websites are stored on one single web server and they share resources like RAM and CPU. Most suitable for small websites that have less traffic.
     (ii) **Dedicated hosting:** The client leases the entire web server and all its resources. It is not shared. Websites of large organisations, government departments, etc. where there are large numbers of visitors, opt for dedicated web hosting.
     (iii) **Virtual Private Server (VPS):** VPS is a physical server that is virtually partitioned into several servers using the virtualization technology. Each VPS works similar to a dedicated server and has its own separate server operating system, web server software and packages.

27. SQL Data Types: INTEGER, DECIMAL, CHAR, VARCHAR, DATE, TIME. (Any three)

DECIMAL(N,D): denotes that the column with this specification can store any value having a maximum of **N** digits, out of which **D** are after the decimal point.

CHAR: is a fixed length character data type. It is mainly used when the data in a column are of the same fixed length and small in size.

VARCHAR: represents variable length strings. The space allocated for the data depends only on the actual size of the string, not on the declared size of the column.

28.   (a) select * from student where batch='science';
         (b) select * from student where grade='A' or grade='A+';
         (c) select batch, count(batch) from student group by batch;

29. Core data types – Integer, Float/Double, String, Boolean (Any three)

Integer: An integer is a whole number ie, number without fractional part(including negative numbers).
Float/Double: Floating point numbers are represented by float or double data type
String: A string is a group of characters. They are enclosed between Single or Double quotation mark.
Boolean: The boolean data type represent TRUE(1) or FALSE(0) values.

30.   (a)

         Java Script: Java script is a client side scripting language used to create interactive web pages..It is executed by most web browsers. It is mainly used to validate user data. A java script file has the extension ' .js'.

         ASP(Active Server Page): ASP is a server side scripting language used to create interactive web pages. An ASP file has '.asp' extension. An asp file contains text, HTML tags and scripts.

         (b)
```
<HTML>
     <HEAD>
          <TITLE> Hsslive.in</TITLE>
     </HEAD>
     <BODY>
          Body section
     </BODY>
</HTML>
```

31. **Advantages of DBMS:**
         Data redundancy (duplication of data) is controlled.
         Data inconsistency is avoided.
         Data are efficiently accessed.
         Data integrity is maintained.
         Data security is ensured.
         Data sharing is allowed.
         Data standardization is enforced.
         Crash recovery of data is possible.

32.   (a) **Infringement** is the unauthorised use of intellectual property rights such as patents, copyrights and trademarks.
         (b)
(i) **Identity theft** occurs when someone uses another person's identifying information, like their name, credit card number, etc. without their permission to commit fraud or other crimes.
(ii) **Harassment** means posting humiliating comments focusing on gender, race, religion, nationality at specific individuals in chat rooms, social media, e-mail, etc. is harassment.

(iii) **Impersonation and cheating:** Impersonation is an act of pretending to be another person for the purpose of harming the victim.
***********************************Prepared by Team Hsslive.in******************************