SY-30

SECOND YEAR HIGHER SECONDARY
SECOND TERMINAL EXAMINATION, DECEMBER-2023

Part – III

Time : 2 Hours

COMPUTER SCIENCE

Cool-off time : 15 Minutes

Maximum : 60 scores

General Instructions to Candidates :

- There is a 'Cool-off time' of 15 minutes in addition to the writing time.
- Use the 'Cool-off time' to get familiar with questions and to plan your answers.
- Read questions carefully before answering.
- Read the instructions carefully.
- Calculations, figures and graphs should be shown in the answer sheet itself.
- Malayalam version of the questions is also provided.
- Give equations wherever necessary.
- Electronic devices except non-programmable calculators are not allowed in the Examination Hall.

വിദ്യാർത്ഥികൾക്കുള്ള പൊതുനിർദ്ദേശങ്ങൾ :

- നിർദ്ദിഷ്ട സമയത്തിന് പുറമെ 15 മിനിറ്റ് 'കൂൾ ഓഫ് ടൈം' ഉണ്ടായിരിക്കും.
- 'കൂൾ ഓഫ് ടൈം' ചോദ്യങ്ങൾ പരിചയപ്പെടാനും ഉത്തരങ്ങൾ ആസൂത്രണം ചെയ്യാനും ഉപയോഗിക്കുക.
- ഉത്തരങ്ങൾ എഴുതുന്നതിന് മുമ്പ് ചോദ്യങ്ങൾ ശ്രദ്ധാപൂർവ്വം വായിക്കണം.
- നിർദ്ദേശങ്ങൾ മുഴുവനും ശ്രദ്ധാപൂർവ്വം വായിക്കണം.
- കണക്ക് കൂട്ടലുകൾ, ചിത്രങ്ങൾ, ഗ്രാഫുകൾ, എന്നിവ ഉത്തരപേപ്പറിൽ തന്നെ ഉണ്ടായിരിക്കണം.
- ചോദ്യങ്ങൾ മലയാളത്തിലും നല്ലിയിട്ടുണ്ട്.
- ആവശ്യമുള്ള സ്ഥലത്ത് സമവാക്യങ്ങൾ കൊടുക്കണം.
- പ്രോഗ്രാമുകൾ ചെയ്യാനാകാത്ത കാൽക്കുലേറ്ററുകൾ ഒഴികെയുള്ള ഒരു ഇലക്ട്രോണിക് ഉപകരണവും പരീക്ഷാഹാളിൽ ഉപയോഗിക്കുവാൻ പാടില്ല.

Answer any 5 questions from 1 to 6. Each carries 1 score. $(5 \times 1 = 5)$

1. Which among the following C++ statement is invalid if p is an integer pointer variable ?

    (a)   cout<<*p;
    (b)   p++;
    (c)   p = new int(5);
    (d)   p=100;

2. Choose the odd one out from the following :

    (a)   Perl
    (b)   JSP
    (c)   JavaScript
    (d)   HTML

3. In HTML _____ tag is used to provide a dropdown box.

4. Write the name of the JavaScript event occurs when the user clicks on an object.

5. The number of rows or tuples in a relation is called _____ of the relation.

6. Which SQL command is used to remove a table from database ?

Answer any 9 questions from 7 to 18. Each carries 2 scores. $(9 \times 2 = 18)$

7. Identify the error in the following structure definition statement in C++ and give the reason for the error.

    ```
    struct distance
    {
        int cm;
        int m=1;
    }d1,d2;
    ```

8. Write an algorithm to insertion operation in a QUEUE data structure.

9. Write short note about linked list.

10. Differentiate between internal and external linking in HTML.

11. Briefly explain about the tags used in definition list.

12. What are the arithmetic operators used in JavaScript ?

13. Write short note about the following JavaScript built-in functions :
    (a) isNaN( )
    (b) charAt( )

14. Consider the following JavaScript statements :
    var x,y;
    x=true;
    y="true";
    Distinguish between the last two statements.

15. List the advantages of Content Management System (CMS).

16. Differentiate between Primary Key and Foreign Key.

17. The components of SQL are classified into Data Definition Language (DDL). Data Manipulation Language (DML) and Data Control Language (DCL). Write the use of the following :
    (a) Data Definition Language (DDL)
    (b) Data Control Language (DCL)

18. Briefly explain about any two aggregate functions used in SQL.

Answer any 9 questions from 19 to 29. Each carries 3 scores.   (9 × 3 = 27)

19. Consider the following C++ statement
    int *p;
    Write C++ statements to
    (a) Create an integer variable dynamically.
    (b) Assign the value 99 to it.
    (c) Delete the created integer variable.

20. What is polymorphism ? What are the different types of polymorphism ?

21. Identify the following form controls and write HTML tag for each to create the controls.
    (a) To input the name of a student. (1½)
    (b) To select "Male" or "Female" (single value from the two values). (1½)

22. Write short note about the HTML tags used to divide a browser window into different sections.

23. Briefly explain with examples for the string addition operator in JavaScript.

24. Write short note about any two control structures used in JavaScript.

25. What are the different types of web hosting ? Give a brief explanation about any one.

26. Describe about FTP client software and give an example for it.

27. List the components of DBMS.

28. Write SQL query for the following :
    (a) Create a table 'Student' with the columns (Roll Number, Name, Gender, Class, Total Marks). (1½)
    (b) List the values of the above table. (1½)

29. Write short note about the data types of PHP.

Answer any 2 questions from 30 to 32. Each carries 5 scores. (2 × 5 = 10)

30. (a) Briefly explain about any three attributes of <BODY> in HTML. (3)
    (b) Write HTML code fragment to display H_2SO_4. (1)
    (c) Write HTML code fragment to display an image named "school.jpg" in a web page. (1)

31. (a) Briefly explain about the tags used to create a table in a web page. (3)
    (b) Differentiate between Ordered and Unordered lists in HTML. (2)

32. (a) Briefly explain about any three advantages of DBMS. (3)
    (b) Write short note about any two operations in relational algebra. (2)