SY-4030

SECOND YEAR HIGHER SECONDARY
SECOND TERMINAL EXAMINATION, DECEMBER-2025

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.

PART – I

Answer any 5 questions from 1 to 6. Each correct answer carries 1 score. **(5 × 1 = 5)**

1. Which one of the following is not correct about a pointer ?

   (a) A pointer stores address.

   (b) A pointer stores L-value of a variable.

   (c) A pointer points to a memory location.

   (d) A pointer stores R-value of a variable.

2. Name the application which acts between the merchant server and bank server for transferring data in encrypted format.

3. Which of the following is the correct way to create an email link ?

   (a) `<A href="abc@xyz">`   (b) `<mail href="abc@xyz">`

   (c) `<mail>"abc@xyz">`   (d) `<A href="mailto:abc@xyz">`

4. In JavaScript, a variable is declared using the keyword _____.

5. Name the level of database abstraction that describes, what data is stored in the database and what relationships exist among them.

6. Which is the keyword used with SELECT command to avoid duplication of rows in the relation ?

PART – II

Answer any 9 questions from 7 to 18. Each correct answer carries 2 scores. (9 × 2 = 18)

7. There is no chance of memory leak in static memory allocation. Write True or False. Justify your answer.

8. Write an algorithm for inserting a new element in a Queue.

9. Write a short note about circular queue.

10. HTML has facility to provide external and internal hyperlinks.

    (a) Which tag is used to include a hyperlink ?

    (b) Name two attributes needed for creating internal hyperlink.

11. Write the output of the following HTML code segment :

```
<OL Type ="1" start = '5'>
    <LI> Chocolate </LI>
    <LI> Milk </LI>
    <LI> Coffee </LI>
</OL>
```

12. Write a short note on 'String addition operator' in JavaScript.

13. Give the names of any two mouse events in JavaScript.

14. List and explain any two built in functions in JavaScript.

15. Recently more and more people are using CMS for developing professional websites. What can be the reason for this ?

16. How many distinct tuples and attributes are there in a relation with cardinality 22 and degree 7 ?

17. Differentiate CHAR and VARCHAR data types of SQL.

18. Give the correct syntax of the queries in SQL for the following :

    (a) Renaming a table

    (b) Deleting rows from a table

PART – III

Answer any 9 questions from 19 to 29. Each correct answer carries 3 scores.

$(9 \times 3 = 27)$

19. Consider the following array initialisation :
    ```
    int ar[5]={-2,-4,-6,2,4};
    ```
    If first element of array is stored at 2050 and size of int is 4, find the output of the following :

    (a) `cout<<*ar+*(ar+3);`

    (b) `cout<<ar+*(ar+4);`

20. List and explain any three advantages of Object Oriented Programming.

21. Distinguish Cellspacing and Cellpadding attributes of <TABLE> tag.

22. Explain the difference between the output of the following statements :
    ```
    document.write("welcome");
    ```
    and
    ```
    alert("welcome");
    ```


23. Write the output of the following code :
    ```
    <HTML>
       <BODY>
          <SCRIPT language="JavaScript">
             var n;
             for (n=1; n<=50;n++)
             {
                if(n%5==0)
                {
                   document.write(n);
                   document.write("<BR>")
                }
             }
          </SCRIPT>
       </BODY>
    </HTML>
    ```

24. (a) What is responsive web design ?

(b) Explain the importance of it.

25. List and explain any three types of Web Hosting.

26. Match the following :

	Column A		Column B
(1)	Cardinality	(a)	Row of a table
(2)	Degree	(b)	Table
(3)	Relation	(c)	Number of rows
(4)	Tuple	(d)	Number of columns
		(e)	Attribute

27. Explain any three major components of DBMS.

28. List and explain any three aggregate functions in SQL.

29. Differentiate between 'echo' and 'print' in PHP.

PART – IV

Answer any 2 questions from 30 to 32. Each correct answer carries 5 scores.

(2 × 5 = 10)

30. (a) Categorise the following tags in HTML and write the criteria for the categorisation.

(
, <P>, <BODY>, <B>, <HR>, <IMG>)　　(2)

(b) Differentiate empty tags and container tags.　　(2)

(c) Pick the odd one from the following list and give reason :

(IMG, FONT, BR, ALIGN, PRE)　　(1)

31. (a) List and explain various types of lists available in HTML. **(2)**

(b) Write an HTML code to create the following list :

> HTML
>> This tag marks a text as HTML document.
>
> HEAD
>> This tag defines the Heading part of the HTML document.
>
> BODY
>> This tag defines the body section of the HTML documents.

(3)

32. Consider the table ITEMS.

Item_Code	Name	Category	Unit_Price	Sales_Price
0001	Pencil	Stationery	5.00	8.00
0002	Pen	Stationery	8.00	10.00
0003	Notebook	Stationery	10.00	20.00
0004	Chappal	Footwear	50.00	70.00
0005	Apple	Fruits	60.00	90.00
0006	Orange	Fruits	40.00	60.00
0007	Pen	Stationery	10.00	9.00

(i) Write the output of the following queries :

(a) SELECT item_Code, Name FROM ITEMS WHERE Category = 'Stationery';

(b) SELECT * FROM ITEMS WHERE Sales_Price < Unit_Price;

(c) SELECT Category, COUNT(*) FROM ITEMS GROUP BY Category; **(3)**

(ii) Explain any 2 column constraints in SQL. **(2)**