

Reg. No. :

Code No. 8019

Name :

For Scheme-I & Scheme-II Candidates

Second Year – 2015
SAY / IMPROVEMENT

Time : 2 Hours
Cool-off time : 15 Minutes

Part – III

COMPUTER SCIENCE

Maximum : 60 Scores

General Instructions to Candidates :

- There is a 'cool-off time' of 15 minutes in addition to the writing time of 2 hrs.
- You are not allowed to write your answers nor to discuss anything with others during the 'cool-off time'.
- Use the 'cool-off time' to get familiar with questions and to plan your answers.
- Read questions carefully before answering.
- All questions are compulsory. Internal choice is allowed.
- Wherever a question has multiple parts, all the sub-questions must be answered from the same question itself.
- 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.

നിർദ്ദേശങ്ങൾ :

- നിർദ്ദിഷ്ട സമയത്തിന് പുറമെ 15 മിനിറ്റ് 'കൂൾ ഓഫ് ടൈം' ഉണ്ടായിരിക്കും. ഈ സമയത്ത് ചോദ്യങ്ങൾക്ക് ഉത്തരം എഴുതാനോ, മറ്റുള്ളവരുമായി ആശയവിനിമയം നടത്താനോ പാടില്ല.
- ഉത്തരങ്ങൾ എഴുതുന്നതിന് മുമ്പ് ചോദ്യങ്ങൾ ശ്രദ്ധാപൂർവ്വം വായിക്കണം.
- എല്ലാ ചോദ്യങ്ങൾക്കും ഉത്തരം എഴുതണം.
- ഒരു ചോദ്യനമ്പർ ഉത്തരമെഴുതാൻ തെരഞ്ഞെടുത്തു കഴിഞ്ഞാൽ ഉപചോദ്യങ്ങളും അതേ ചോദ്യനമ്പറിൽ നിന്ന് തന്നെ തെരഞ്ഞെടുക്കേണ്ടതാണ്.
- കണക്ക് കൂട്ടലുകൾ, ചിത്രങ്ങൾ, ഗ്രാഫുകൾ എന്നിവ ഉത്തരപേപ്പറിൽ തന്നെ ഉണ്ടായിരിക്കണം.
- ചോദ്യങ്ങൾ മലയാളത്തിലും നൽകിയിട്ടുണ്ട്.
- ആവശ്യമുള്ള സ്ഥലത്ത് സമവാക്യങ്ങൾ കൊടുക്കണം.
- പ്രോഗ്രാമുകൾ ചെയ്യാനാകാത്ത കാൽക്കുലേറ്ററുകൾ ഒഴികെയുള്ള ഒരു ഇലക്ട്രോണിക് ഉപകരണവും പരീക്ഷാഹാളിൽ ഉപയോഗിക്കുവാൻ പാടില്ല.

1. State true or false :
In public derivation, public members of the base class become public and protected members become private in the derived class. (Score : 1)

2. _____ not a browser.
(a) Firefox
(b) Chrome
(c) Mozilla
(d) Safari (Score : 1)

3. Write the website address of Education Portal of Kerala Higher Secondary Education. (Score : 1)

4. List the operators and its types involved in the given expression.
ovrspd=(dist<20 && spd>40)? 'y':'n'; (Score : 1)

5. Identify the type of constructors used in each of the given examples.
(i) student s1=s2;
(ii) student s3;
(iii) student s4(101, "xxxxx", 2014);
(iv) student s5(s4): (Score : 1)

6. Predict the output of the following program.

```
#include<iostream.h>
```

```
class st
```

```
{
```

```
    int a,b ;
```

```
    public:
```

```
    st()
```

```
    {
```

```
        a=1;
```

```
        b=5;
```

```
    }
```

```
    void sum()
```

```
    {
```

```
        a++;
```

```
        b+=a;
```

```
        cout<<"sum="< HSSLiVE.IN
```

```
        HSSLiVE.IN
```

```
    }
```

```
};
```

```
void main()
```

```
{
```

```
    st s1;
```

```
    s1.sum();
```

```
}
```

(Score : 1)

7. Represent the following details of an examination in a structure. Use nested structure wherever necessary.

HSC, Computer Science, June 2014, Say examination, score 60, 2 Hrs. 30 Mints

(Scores : 2)

-
8. (a) Write an example to differentiate between local and global objects. (Scores : 2)
- (b) Write a program to find maximum value among two numbers using friend function. (Scores : 3)

9. Assume that you saw the book "Randamoozham" arranged in the rack of Novels under the Malayalam section of your library. Write the basic object oriented programming concept applied here. Justify your answer. (Scores : 2)

10. Imagine that you want to use a function in the class 'vehicle' which will return a new registration number for a vehicle if the year of registration, model number, vehicle colour and type are supplied as parameters to the function. Write the signature of the function. Write the program code to represent the class definition. (Scores : 3)

11. (a) Define dynamic memory allocation. List the operators used for it. (Scores : 2)
- (b) Write a program to interchange two marks m1 and m2 by passing them as reference to a function. (Scores : 3)

12. (a) Explain the stream class hierarchy.

(Scores : 2)

(b) Match the following :

A

B

- | | |
|---------------------|--|
| (i) ios::trunc | (a) Default of ifstream |
| (ii) ios::in | (b) Open fails if the file does not exists |
| (iii) ios::nocreate | (c) Open file for writing only |
| (iv) ios::out | (d) Delete contents of the file if it exists |
| | (e) Opens file in binary mode |

(Scores : 2)

13. (a) Draw the circuit diagram of a 4 bit binary encoder. With the help of truth table explain the encoding of 9 into the equivalent binary form.

(Scores : 2)

(b) List the universal gates. Describe how De Morgan's theorem is applied for a NAND gate to perform AND operation.

(Scores : 2)

14. (a) Imagine that you are going to attend the interview for the post of system analyst in a leading company in another one month time. Mention the basic skills that you will try to acquire by this time and the ways to acquire them.

(Scores : 2)

(b) A bank having 100 ATM counters is going to install a new software for their ATM transactions. Identify the changeover method that they would adopt so that the system works smoothly and the bank gets time to verify the transactions. Justify your answer. Also state how the bank validates the new system.

(Scores : 3)

15. An array 'price' contains 20 integer values. Write a C++ program to re-initialize the maximum value in the array to 0.

(Scores : 3)

16. For high speed broadband connection optical fibre is usually used. State the reason.
Compare the advantages and disadvantages of optical fibre. (Scores : 3)

17. Write a program to define student class and create 3 objects based on this class. Use constructor function to assign values into the objects. Display the student name who has scored maximum marks. (Scores : 3)

18. (a) Find the Cartesian product of PRODUCT and SUPPLIER.

PRODUCT			SUPPLIER		
Pno	Pname	Price	Sno	Sname	Discount
101	Soap	32	201	SSV	10
102	Oil	72	202	ABC	12
103	Spray	120	203	L&S	15

(Scores : 2)

(b) Define the following based on the above two tables :

- (i) Relation
- (ii) Domain
- (iii) Tuple
- (iv) Attributes
- (v) Cardinality
- (vi) Degree

HSSLIVE.IN

HSSLIVE.IN

(Scores : 3)

19. Create the following tables and add 5 records into each of them. Write the queries for (i) to (iii)

Student(regno, sname, age, sex, class)

Marks(regno, subject, mark)

- (i) List the students in the age group 10-15.
- (ii) How many students have scored above 50 marks for Computer Science ?
- (iii) How many students are there in 10th class ?

(Scores : 5)

OR

20. Create the following table and add 5 records in it.

Patient(pid, pname, age)

- (i) Add a new column 'address' to patient.
- (ii) Update the address field to "Tvpm" for all records.
- (iii) Delete the second patient's record.

(Scores : 5)

21. Read the book details of the library (book no, title, price) and store them into the file book.dat. Count the number of book details currently stored in book.dat.

(Scores : 5)

OR

22. The text file k1.txt contains an article published in a newspaper. Write a program to read the article and copy it into k2.txt in upper case letters.

(Scores : 5)

HSSLIVE.IN

HSSLIVE.IN