

Total No. of Questions: 6

Total No. of Printed Pages:3

Enrollment No.....



Faculty of Science  
End Sem Examination Dec-2023  
FS3EG01 Computer Science

Programme: B.Sc. (Hons.)

Branch/Specialisation: Forensic  
Science

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Which of the following language does the computer understand? **1**  
(a) Computer understands only C Language  
(b) Computer understands only Assembly Language  
(c) Computer understands only Binary Language  
(d) Computer understands only BASIC
- ii. Which of the following is not a type of computer on the basis of operation? **1**  
(a) Digital (b) Analog  
(c) Hybrid (d) Remote
- iii. The octal equivalent of 1100101.001010 is \_\_\_\_\_. **1**  
(a) 624.12 (b) 145.12  
(c) 154.12 (d) 145.21
- iv. Convert  $(22)_8$  into its corresponding decimal number. **1**  
(a) 28 (b) 81  
(c) 18 (d) 82
- v. What is the high speed memory between the main memory and the CPU called? **1**  
(a) Cache Memory (b) Register Memory  
(c) Storage Memory (d) Virtual Memory
- vi. The transfer between CPU and Cache is \_\_\_\_\_. **1**  
(a) Block transfer (b) Word transfer  
(c) Set transfer (d) Associative transfer

- vii. What will be the output of the following C code? **1**
- ```
#include <stdio.h>
void main()
{
    int const k = 5;
    k++;
    printf("k is %d", k);
}
```
- (a) k is 6  
(b) Error due to const succeeding int  
(c) Error, because a constant variable can be changed only twice  
(d) Error, because a constant variable cannot be changed
- viii. Which of the following declaration is not supported by C? **1**
- (a) String str;  
(b) char \*str;  
(c) float str = 3e2;  
(d) Both String str; & float str = 3e2;
- ix. What will be the output of the following C code? **1**
- ```
#include <stdio.h>
void main()
{
    int a[2][3] = {1, 2, 3, 4, 5};
    int i = 0, j = 0;
    for (i = 0; i < 2; i++)
        for (j = 0; j < 3; j++)
            printf("%d", a[i][j]);
}
```
- (a) 1 2 3 4 5 0                      (b) 1 2 3 4 5 junk  
(c) 1 2 3 4 5 5                      (d) Run time error
- x. What is the return-type of the function sqrt()? **1**
- (a) int  
(b) float  
(c) double  
(d) depends on the data type of the parameter

- Q.2 i. What is the CPU (Central Processing Unit)? **2**  
 ii. Discuss the major component of every generation of computer. **3**  
 iii. What is the difference between hardware and software? **5**  
 OR iv. What are the characteristics of a computer? **5**
- Q.3 i. Convert the octal number 7401 to Binary. **2**  
 ii. Perform 2's complement subtraction of  $(11)_{10}$  from  $(7)_{10}$ . **8**  
 OR iii. What is Binary Coded Decimal (BCD)? How are decimal digits represented in BCD? What is the advantage of using BCD representation over pure binary for decimal numbers? **8**
- Q.4 i. What is ROM? What are some common types of ROM? **3**  
 ii. Explain the memory hierarchy in computer system. **7**  
 OR iii. How does SDRAM differ from ordinary DRAM? **7**
- Q.5 i. What is data type? Show some examples of different data type. **4**  
 ii. Write a program in C to print list of even numbers from 1 to 100. **6**  
 OR iii. Write a C program to find the area and volume of sphere. **6**  
 Formulas are: Area =  $4 \cdot \text{PI} \cdot \text{R} \cdot \text{R}$  Volume =  $(4/3) \cdot \text{PI} \cdot \text{R} \cdot \text{R} \cdot \text{R}$ .
- Q.6 Attempt any two:
- i. What are arrays and why are they needed? **5**  
 ii. What are strings? Discuss some of the operations that can be performed on strings. **5**  
 iii. What is recursion? Explain with help of example. **5**

\*\*\*\*\*