2022

Full Marks : 60

Time : 3 hours

Answer from **both** the Groups as directed

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP—A

1. Answer *all* questions of the following :   1 × 5

   (*i*)   What is the output of the following code snippet ?

   ```
   int main() {
   int sum = 2 + 4 / 2 + 6 * 2;
   printf("%d", sum);
   return 0;
   }
   ```

(a) 2

(b) 16

(c) 8

(d) 19

(ii) Which of the following is an exit controlled loop ?

(a) While loop

(b) do-while loop

(c) for loop

(d) None of these

(iii) Which of the following function is used to open a file in C++ ?

(a) Fopen

(b) fclose

(c) fseek

(d) fgets

(iv) How to find the length of an array in C ?

(a) Sizeof(a)

(b) Sizeof(a[O])

(c) Sizeof(a) / Sizeof(a[O])

(d) Sizeof(a) * Sizeof(a[O])

(v) What is the output of following program ?

```
#include <stdio.h>
#define square(x) (x*x)
int main()
{
    int x, y = 1;
    x = square(y + 1);
    printf("%d\n", x);
    return 0;
}
```

(a) Error

(b) 4

(c) 3

(d) Garbage value

2. Write a program to compute the sum of diagonal elements of a square matrix. 5

3. Discuss basic file handling function. 5

GROUP—B

Answer any three questions of the following : 15 × 3

4. What do you understood by built-in function ? How are they different from user defined function ?

5. What is an array ? What are the merits and demerits of array in C ? Differentiate between one dimensional and two dimensional arrays with suitable example.

6. Explain the term "calling function by reference." How do you declare pointers ? Explain using a suitable example.

7. Write short notes on any *two* of the following :

   (a) Recursive function

   (b) Dynamic Memory Allocation

   (c) Storage classes.

8. Write a program in C to find the Fibonacci series between 1 to *n*.

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