

Total No. of printed pages = 4

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(GITM & GIPS)  
Azara, Hatkhowapara,  
Guwahati - 781017

MCA 182101

Roll No. of candidate

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20/3/2021

M.C.A. 1<sup>st</sup> Semester End-Term Examination

INTRODUCTORY PROGRAMMING

(New Regulation New Syllabus)

Full Marks – 70

Time – Three hours

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The figures in the margin indicate full marks for the questions.

Answer question No. 1 and any *four* from the rest.

1. Choose the Correct option: (10 × 1 = 10)

(i) The \_\_\_\_\_ operator is true only when both the operands are true.

- (a) or (b) and  
(c) bitwise (d) boolean

(ii) void main ()

```
{  
int x = 128;  
printf("n%d", 1+ x++);  
}
```

- (a) 129 (b) 130  
(c) 132 (d) 128

(iii) #include <stdio.h>

```
int tmp=20;  
main () {  
printf("%d ", tmp);  
func ();  
printf("%d ", tmp);  
}  
func()
```

```
{  
static int tmp = 10;  
printf("%d ", tmp);  
}
```

- (a) 20 10 10 (b) 20 20 20  
(c) 10 20 10 (d) 10 10 10

[Turn over

(iv) `int main ()`

```
{  
int a, b;  
a = b = 4;  
a = b++;  
printf("%d %d %d %d", a++, --b, ++a, b--);  
}
```

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(a) 5 3 7 3

(b) 5 4 5 3

(c) 6 2 6 4

(d) 6 2 6 2

(v) An array is is

(a) a random access structure

(b) probably the most widely used data structure

(c) homogeneous structure

(d) all of the above

(vi) Which of the following true about FILE \*fp

(a) FILE is a keyword in C for representing files and fp is a variable of FILE type.

(b) FILE is a structure and fp is a pointer to the structure of FILE type

(c) FILE is a stream

(d) FILE is a buffered stream

(vii) If array is initialized where it is declared, then mentioning \_\_\_\_\_ of array is optional.

(a) Data type

(b) Dimension

(c) Name

(d) Data type and Dimension

(viii) What will be output of the following program

```
int main()  
int b[4] = {5,1,32,4};  
int k, l, m;  
k = ++b[1];  
l=b[1]++;  
m=b[k++];  
printf("%d, %d, %d",k,l,m);  
return 0;  
}
```

(a) 2, 2, 4

(b) 3, 2, 32

(c) 3, 2, 4

(d) 2, 3, 32



(ix) What is the output of this C code?

```
#include
void main()
{
static int x = 3;
x++
if(x <= 5)
{
printf("hello");
main();
}
```

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- (a) Run time error (b) Hello  
(c) Infinite hello (d) Hello hello

(x) What is the output of this C code?

```
#include
void main()
{
static int i;
printf("i is %d", i);
}
```

- (a) 0 (b) 1  
(c) Garbage Value (d) Run time error

2. (a) What is an algorithm? Give its properties. (2)  
(b) What do you mean by identifier and keywords? (1½ × 2 = 3)  
(c) What is type conversion? Explain its types. (3)  
(d) What do you mean by formatted input and output functions. (3)  
(e) Why do you use conditional operator? Why is called ternary operator? Write a program to find the largest of three numbers using conditional operator. (1 + 1 + 2 = 4)
3. (a) Difference between selection and looping. (2)  
(b) What is the drawback of declaring variables as global? (2)  
(c) Write a program to generate Fibonacci series using arrays. (4)  
(d) What is function prototyping? Why it is necessary? Write a program to display power of given number using function. (1 + 2 + 4 = 7)

4. (a) Define a pointer variable. Explain the uses of pointers. (2 + 2 = 4)
- (b) Can we initialize structure variables while they are declared? If yes, explain the syntax with an example. (4)
- (c) Differentiate between structure and union. (3)
- (d) What is a string? How strings are declared and initialized. (4)
5. (a) Why is the use of goto statement discouraged in C programs? (2)
- (b) Explain the relationship between Pointers and arrays by taking suitable example. (3)
- (c) What is meant by call by value? Explain how it is different from call by reference. Write C language program to support your answer. (2 + 3 + 5 = 10)
6. (a) What is a file? Why do we need the concept of files? (3)
- (b) What is software? Explain different types of software. (4)
- (c) Explain the use of rewind() function in files? (3)
- (d) Write a program to count the number of characters in a text file. (5)

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