

Total No. of printed pages = 6

Library, G.I.M.T.

22/11/18

BCA 171103

Roll No. of candidate

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2018

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

INTRODUCTION TO C PROGRAMMING

Full Marks – 70

Time – Three hours

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

Answer Question 1 and any *four* from the rest.

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

(i) Identify the invalid constant

(a) “ “

(b) ‘ ‘

(c) ‘con’

(d) ‘\n’

(ii) For the following statements find the value generated for p and q?

```
int p=10, q=1;
```

```
p= q++;
```

```
p=++q;
```

```
p=p + q++;
```

(a) p=6 , q=4      (b) p=16 , q=4

(c) p=5 , q=14      (d) p=16 , q=14

[Turn over

- (iii) Header files in C contain
- (a) Compiler Command
  - (b) Library Function
  - (c) Header information of the program
  - (d) Input-Output information
- (iv) Identify the wrong one
- (a) `for(expr 1 ;expr 2;)`
  - (b) `for(expr 1 ,exper 2 ,expr 3)`
  - (c) `for(;;)`
  - (d) All of the above
- (v) `void main( )`
- ```
{  
    int i=10;  
    printf("%d",i+2);  
    printf("%d", ++i);  
    printf("%d",i++);  
}
```
- (a) 12 13 14      (b) 12 12 13
  - (c) 12 13 13      (d) 12 11 11
- (vi) Which of the following function is more appropriate for reading in a multi-word string?
- (a) `printf()`;      (b) `scanf()`;
  - (c) `gets()`;      (d) `puts()`;

(vii) Which of the following is true for static variable?

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- (a) It can be called from another function
- (b) It exists even after the function ends
- (c) It can be modified in another function by sending it as a parameter
- (d) All of the mentioned

(viii) What does the following declaration mean?

```
int (*ptr)[10];
```

- (a) ptr is array of pointers to 10
- (b) ptr is an pointer to array integers
- (c) ptr is a pointer to an array of 10 integers
- (d) ptr is an array of 10 integers

(ix) 

```
int main( )
```

```
{
```

```
int i = 7;
```

```
i = i / 4;
```

```
printf("%f \n", i);
```

```
return ( );
```

```
}
```

- (a) 1.75
- (b) 1
- (c) 3
- (d) 1.000000

(x) If there is any error while opening a file, fopen will return?

- (a) EOF
- (b) NULL
- (c) 0
- (d) 1

2. (a) What is a keyword? (2)
- (b) State the difference between low level language and high-level language? (3)
- (c) What is program? What are the different steps of program development? (3)
- (d) What is header file? Why they are needed? (1+2+3)
- (e) Why Indentation and documentation is essential in a program? (2+2=4)
3. (a) What is algorithm? What are its various characteristics? (2+2=4)
- (b) 'C is a middle level language', comment on this statement. (3)
- (c) How data type promotion is done in an expression? (2)
- (d) Why break is essential in switch statement? What is the significant of default statement. (3)
- (e) Write a program to swap two numbers without using third variable. (3)
4. (a) What is variable? What are the rules for defining variables? (1+2=3)

(b) What do you mean by local and global variables? (3)

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(c) State the differences : (3×3=9)

(i) if-else and switch-case statement

(ii) Compiler and interpreter

(iii) while and do-while loop

5. (a) What is the difference between the = symbol and == symbol? (3)

(b) What is array? Write a program to find maximum and minimum number from an array of 10 elements. (2+4=6)

(c) What do you mean by dynamic memory allocation? Discuss how dynamic memory allocation is implemented in C program. (2+4=6)

6. (a) What do you mean by recursive function? Explain the working principle of a recursive function with an example. (2+5=7)

(b) 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+2+4=8)

7. (a) What is the difference between `getch()` and `getche()`? Give examples. (3)
- (b) Write a C program to find the sum of two matrices. (6)
- (c) What is file pointer? How file is declared in C language? Explain various file operations in C language. (1+2+3=6)
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