



**MBS-003-0494001**

Seat No. \_\_\_\_\_

**B .Sc. / M. Sc. (Applied Physics) (Sem. IV)  
(CBCS) Examination**

**April / May - 2018**

**Paper - XIII : Modern Computational Techniques  
& Programming  
(New Course)**

**Faculty Code : 003**

**Subject Code : 0494001**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.  
(2) Numbers in the right margin indicate marks.

- 1** Attempt any **seven** short questions : (two marks each) **14**
- (1) Why C language is called a middle level language ?
  - (2) List down primary data types of C language.
  - (3) List down secondary data types of C language.
  - (4) What is meant by syntax error ?
  - (5) Explain logical error.
  - (6) Define pre-processors in C language.
  - (7) Why header files are added in C language programs ?
  - (8) Explain the function clrscr( ).
  - (9) Explain the statements goto and label.
  - (10) Define program and software.
- 2** (a) Write answers of any **two** : (five marks each) **10**
- (1) Discuss arithmetic operators in C language.
  - (2) Explain logical operators in C language.
  - (3) Explain with syntax - Decision making statement in C language.
  - (4) Discuss with example "switch case".

(b) Write answers of any **one** : (two marks each) **4**

(1) Write down the output of following program

```
a = 10; a++;  
if(a==11)  
{printf("ELEVEN");}  
else {printf("TEN");}
```

(2) Write down the output of following program

```
a = 10; b=11; a++; b--;  
if(a==11 && b!=10)  
{printf("ELEVEN");}  
else {printf("TEN");}
```

**3** (a) Write answers of any **two** : (five marks each) **10**

(1) Explain for loop in C language.

(2) Discuss do while loop in C language.

(3) What is meant by nested loop? With example, explain.

(4) Show how while loop differ from do while with syntax.

(b) Write answers of any **one** : (two marks each) **4**

(1) Write down the output of following program

```
a = 10;  
for(b=0;b<3;b++)  
{printf("%d, %d",a,b);}
```

(2) Write down the output of following program

```
k=12;  
do  
{  
a = k % 2;  
printf("%d", a);  
k--;} while(k >0)
```

- 4 (a) Write answers of any **two** : (five marks each) **10**
- (1) Define pointers. Why pointers are used in C?
  - (2) What is used to store similar data types? Explain with example.
  - (3) Differentiate call by value and call by reference for any user defined function in C.
  - (4) List any four string functions and explain them.
- (b) Write answers of any **one** : (two marks each) **4**
- (1) All data types use same memory size to store the value of variables. True or False. Justify your answer.
  - (2) Explain the steps to create and run a C program.
- 5 (a) Write answers of any **two** : (five marks each) **10**
- (1) With suitable example, explain flow chart.
  - (2) List and explain characteristics of numerical computing.
  - (3) List and explain types of computers.
  - (4) Discuss in depth Organization or architecture of computers.
- (b) Write answers of any **one** : (two marks each) **4**
- (1) Explain different types of software.
  - (2) List some of the methods to find roots of linear equations using programming methods.
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