Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SECOND SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: CS100

Course Name: COMPUTER PROGRAMMING (CS, IT)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions.

Marks

1 Differentiate between Keywords and Identifiers in C. (3)

2 What will be the output of the following code and justify your answer. (3)

```
#include <stdio.h>
void funX()
{
 static inti=1;
i*=2;
printf("%d ", i);
}
main()
{
inti;
for(i=0;i<4;i++)  funX();
}
```

3 Write a C program to accept a 2-D integer matrix and check whether it symmetric or not. (3)

4 Differentiate between Structure and Union in C. (3)

5 What are pre-processor directives? List any two pre-processor directive and their uses. (3)

6 Explain any 3 bitwise operators and 3 logical operators in C, with example. (3)

7 What will be the value of someFunction(5,2) for the following definition of someFunction? Justify your answer. (3)

```
void someFunction(int a, int b)
{
int *ptr;
   a = 0;
ptr = &a;
   b = *ptr;
   *ptr = 1;
printf("%d,%d", a, b);
}
```

8 Explain any Six File opening modes available in C. (3)

9 Explain the concept of Command Line Argument in C with example (2)

10 Write a C program to check whether a characteris present in a string. (2)

11 What will be the output if doSomething(117,17) is called with the following definition? (2)

```
intdoSomething(int a, int b)
 {
  if (b != 0)
    return doSomething(b, a%b);
  else
    return a;
}
```

12 Explain how a pointer is assigned with a structure in C and how the member variable of structure is accessed using this pointer? (2)

13 What are function prototypes? Is Function prototype mandatory for every user defined function in C? Justify your answer. (2)

14 Write a C program to find the largest among three given numbers, by applying conditional operator. (2)

15 How constants are defined in C programs. Explain? (2)

16 Write a C program to findsum of digits in an integer. (2)

PART B

Answer any 4 full questions, each carries 8 marks.

17 a) For the declaration int p=1, q=1, r[25]={1}, s[5][25]={{1}}; , check the validity of the given pointer usages and if valid provide the value of the statement. Support your answer with proper explanation. (5)

i) *p ii) &(p+q) iii) *(&p) iv) *2017 v) *s[0]

b) What will be the output of the following code? Justify your answer. (3)

```
#include<stdio.h>
void main()
{
 char s1[30]="2017 is prime",*s2;
 s2=s1;
*s2+=1;
 s2+=2;
printf("\n%s",s2);}
```

18 a) With suitable example explain different function parameter passing methods in C. (5)

b) Write a C program to find the length of a given string ***recursively,*** without using any standard string library function. (3)

19 Explain the working of loop control statements in C with examples. (8)

20 a) What will be the output of mystery(4096,128) for the following code? Explainwhy ? (3)

```
void mystery(int A, int B)
{
        count=0;
        while(A>B) { A = A – B; count++;}
        while(B>A) { B = B – A; count++;}
    printf("%d", count);
}
```

b) Explain ***switch*** construct with example. (2)

c) What will be the output of the following code snippet? (3)

```
int x=1;
switch(x)
{
 case 0: printf( "Zero" );
 case 1: printf( "One" );
 default: printf( "Not allowed in binary" );
}
```

21 a) Explain with example, how break and continue constructs are useful in C programming. (5)

b) If the following code is supposed to print first 100 positive integers, which are not multiple of 3, fill Line1 and Line2 with suitable C programming statement. Justify your answer. (3)

```
void main()
{int count=0, i=0;
        while(1)
        {
        i++;
        if(i%3==0)
        ----------//Line1
        count++;
        printf("%d\t",i);
        if(count==100)
        ----------//Line2
        }
}
```

PART C

Answer any two full questions, each carries 14 marks.

22 a) Write a C program to copy the content of a given text file to a new file after replacing every lowercase letters with corresponding uppercase letters. (10)

b) With suitable example explain any four different File I/O operations in C? (4)

23 a) What are the different storage classes in C? Explain with example. (8)

b) What will be the output of the following code snippet? Answer should be supported with proper reasons. (6)

```
#include<stdio.h>
    inti=0,j=0;
    display()
{
printf("\n4: %d %d",i,j);
}
```

```
void main()
{
inti=1,j=1;
printf("\n1: %d %d",i,j);
{
    inti=2,j=2;
    printf("\n2: %d %d",i,j);
    i++;j++;
    }
    printf("\n3: %d %d",i,j);
    i++;j++;
    display();
}
```

24 a) Write a C program to accept Admission number and Name of 'N' (a positive integer) students in a class and toprepare a Roll List based on the alphabetical order of their Names. (8)

b) Write a C program for displaying the prime numbers in a *m*X*n* matrix. (6)

****