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Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SECOND SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019

Course Code: CS100

Course Name: COMPUTER PROGRAMMING (CS, IT)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 2 or 3 marks.

Marks

- | | | |
|----|---|-----|
| 1 | Describe the four data-type qualifiers in C. | (3) |
| 2 | With a suitable example explain how does a pointer point to another pointer? | (3) |
| 3 | What is a structure? How is a structure member accessed? Explain with an example | (3) |
| 4 | Write a C program to subtract two matrices. | (3) |
| 5 | When parameters are passed to a program from the command line, how is the program execution initiated? Explain with an example. | (3) |
| 6 | Discuss about unformatted data files and write on any two library functions associated with this. | (3) |
| 7 | Write the output of the program. Justify the answer
<pre>#include<stdio.h> int fun() { static int count=0; count++; return count; } int main() { printf(“%d”, fun()); printf(“%d”, fun()); return 0; }</pre> | (3) |
| 8 | Illustrate the steps for sorting the following set of numbers using selection sort (descending).23,97,60,11,61. | (3) |
| 9 | What are the keywords in C? What restrictions apply to their use? | (2) |
| 10 | Explain the relational and equality operators in C with example. | (2) |
| 11 | Write the output of the program
<pre>#include<stdio.h> #define prod(a ,b) a*b int main() { int x=3,y=4; printf(“%d”,prod(x+2,y-1)); printf(“%d”,prod(y+1,x-2)); return 0; }</pre> | (2) |
| 12 | What is the output of the following program? Justify your answer.
<pre>#include<stdio.h> void main() { char *p = “wxyz”;</pre> | (2) |

```
printf("%c", *p++);  
printf("%c", *p);  
}
```

- 13 List the advantages of using pointers in C. (2)
- 14 What do you mean by scope of a variable in C? (2)
- 15 What is a stream pointer? What is the relationship between a stream pointer and buffer area? (2)
- 16 Explain the meaning of each of the following function prototypes. (2)
- i) int f1 (int a);
 - ii) double f2(double a, int b);

PART B

Answer any four full questions, each carries 8 marks.

- 17 a) Write a C program to evaluate the series (5)
- $$x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots$$
- b) Explain increment and decrement operators with an example. (3)
- 18 a) Write a C program to accept a two dimensional matrix and display the row sum, column sum and diagonal sum of elements. (5)
- b) Write a C program to replace a character in a string with another character. (3)
- 19 Using pointers, write a function that receives a character string and a character as argument and deletes all occurrences of this character in the string. The function should return the corrected string with no holes. Also write the main function to invoke the above function. (8)
- 20 a) Write a program to check whether a number is perfect or not. (3)
- b) How will you declare variables using enumerated data type? Explain with an example. (3)
- c) Explain the purpose of typedef construct. (2)
- 21 Explain the various function parameter passing methods with examples. (8)

PART C

Answer any two full questions, each carries 14 marks.

- 22 a) Write a C program to read two sorted arrays and merge them into a single array. (8)
- b) Write a C program to search for an element using binary search. (6)
- 23 a) Write a C program to copy the contents of a text file to another file. Pass the filename using command line arguments. (8)
- b) Give the syntax and use of external storage class. (3)
- c) What is an unformatted data file? List the applications of such files. (3)
- 24 a) Write a C program to write a set of numbers to a file and separate the odd and even numbers to two separate files. (8)
- b) Differentiate static and automatic variables. (4)
