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Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SECOND SEMESTER B.TECH DEGREE EXAMINATION(S), DECEMBER 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 | What are identifiers? Give rules for declaring identifiers. | (3) |
| 2 | Explain with suitable examples, how & and * operators are used with pointer variable. | (3) |
| 3 | What is the output of the program?
<pre>#include<stdio.h> int main() { int x=30, *y, *z; y=&x; /* Assume address of x is 500 and integer is 4 byte size */ z=y; *y++=*z++; x++; printf("x=%d, y=%d, z=%d\n", x, y, z); return 0; }</pre> | (3) |
| 4 | Explain static storage class with an example. | (3) |
| 5 | Describe the three logical bitwise operators. What is the purpose of each? | (3) |
| 6 | What do you mean by opening of a file? How is this accomplished? | (3) |
| 7 | Compare the use of fread() and fwrite() functions with fscanf() and fprintf() functions. | (3) |
| 8 | Explain enum data type in C with example. | (3) |
| 9 | Define header files and give any two examples. | (2) |
| 10 | What is the value of 'a' after executing following code fragment? Justify your answer.
<pre>int x=10; x++; a=x--;</pre> | (2) |
| 11 | Write a C program to find largest element in an array. | (2) |
| 12 | Differentiate Structure and Union. | (2) |
| 13 | Write a C program to swap the content of two variables using pointers. | (2) |
| 14 | How will you declare a pointer to a function? Write down the syntax and explain. | (2) |
| 15 | What is a masking operation? What is the purpose of each operand? | (2) |
| 16 | What is the significance of EOF? | (2) |

PART B*Answer any four full questions, each carries 8 marks.*

- 17 a) Differentiate break and continue statements with examples. (5)
 b) Write a program to print the pattern 101010... using for loop. (3)
- 18 a) Give the syntax of “do..while” loop. How is it different from “while” loop? (5)
 Explain with examples.
 b) Write a C program to check whether a number is Armstrong or not. (3)
- 19 a) Explain with an example how multidimensional arrays are declared? (4)
 b) Write a C program to find transpose of a matrix. (4)
- 20 a) Create a structure for an employee with following information:- empid, name and salary. Write a program to read the details of ‘n’ employees and display the details of employees whose salary is above 10000. Use pointer to structure. (5)
 b) How do pointers differ from variables in C? (3)
- 21 a) Define recursion with an example. Differentiate between iteration and recursion. (4)
 b) Write a C program to find the GCD of two numbers using recursive function. (4)

PART C*Answer any two full questions, each carries 14 marks.*

- 22 a) Write a C program using function to find the decimal equivalent of a binary number. (6)
 b) Illustrate sorting of the following elements using bubble sort (ascending) (8)
 21, 32, 45, 14,67,8, 54,9
- 23 a) What are the file I/O functions in C? Explain about the task performed by each function. (8)
 b) Describe the output generated by the following program (6)

```
#include<stdio.h>
int a=3;
fun(int x)
{ a+= x;
  return(a);
}
void main( )
{ int i;
  for(i=1;i<=6;++i)
  { a=fun(i);
    printf(“%d”,a);
  }
}
```

- 24 a) Write a C program to copy the content from one file to another file. (10)
 b) When fopen() is not able to open a file, what it returns? Explain in brief. (4)
