

Reg. No. \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
SECOND SEMESTER B.TECH DEGREE EXAMINATION, MAY 2017

Course Code: **CS100**Course Name: **COMPUTER PROGRAMMING (CS, IT)**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all Questions.*

1. What are identifiers? Give the rules for forming identifiers in C. (3)
2. What do you mean by associativity? What is the associativity of unary operators?(2)
3. Explain the use of continue statement with the help of an example. (3)
4. What are library functions? (2)
5. What is the use of a function prototype? Give the function prototype of a function accepting one float value and an integer array and return a float array. (3)
6. Write a function to compute the length of a string declared using a pointer variable.(3)
7. How do you initialize a two dimensional array during declaration? (2)
8. What are enumerated data types? How ordinal values are assigned to its members?(3)
9. Explain the difference between \*ptr++ and (\*ptr)++ if ptr is pointing to the first element of an integer array. (3)
10. With an example, show how you can access the members of a structure variable using a pointer to the variable. (2)
11. Explain any three file opening modes? (2)
12. How can you perform read and write operations on an unformatted data file? (3)
13. Explain static storage class with the help of an example. (2)
14. Explain the arguments passed to the main function as command line arguments. (3)
15. What is a NULL pointer? (2)
16. Explain the use of indirection operator with the help of an example. (2)

**PART B**

*Answer any 4 complete questions, each having 8 marks.*

17. a) Write a C program to compute the sum of first n terms of the series:  $1 + \frac{2}{3!} + \frac{3}{5!} + \frac{4}{7!} + \dots$  (5)
- b) What do you mean by typecasting? (3)
18. a) Discuss the difference between call by value and call by reference parameter passing techniques with the help of suitable examples. (6)
- b) Explain any two bit level operators with examples. (2)
19. a) Write a C program to perform selection sort on a set of numbers. The set of numbers should be accessed using a pointer pointing to the first element. Do not use an array to hold the numbers. (6)
- b) What is the use of typedef construct in C? (2)
20. a) Write a C program to concatenate two strings without using any standard library functions. (5)
- b) Discuss the differences and similarities between a structure variable and a union variable. (3)
21. a) Write a recursive function to perform binary search on a set of sorted numbers. (5)
- b) How do you declare constants in C? (3)

**PART C**

*Answer any two questions each having 14 marks.*

22. a) Write a program to compute the product of two matrices. Use array of pointers to access the matrices. (10)
- b) Explain dangling else problem. (4)
23. a) Assume there are two files first.txt and second.txt. Write a C program to merge the contents of two files into a new file third.txt. (10)
- b) What is dynamic memory allocation? (4)
24. a) A student database stores following information about students in a class: Rollno, name, gender, CGPA .Write a program to prepare a ranklist based on CGPA . Also prepare a list of students having CGPA less than 7. (10)
- b) Explain scope of a variable with suitable examples. (4)

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