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Question Paper Code: 52809

B.E. / B.Tech. DEGREE EXAMINATION, SEP 2020

Second Semester

Information Technology

15UIT209 - PROBLEM SOLVING AND PROGRAMMING TECHNIQUES

(Regulation 2015)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the Following Questions)

1. AC preprocessor directive begins with _____ CO1- R
(a) # (b) include (c) main() (d) Functions
2. If #include is used with file name in angular brackets CO1- R
(a) The file is searched for in the standard compiler include paths
(b) The search path is expanded to include the current source directory
(c) The search path will expand
(d) None of the mentioned
3. Which of the followings is correct for a function definition along with storage- CO2- R
class specifier in C language?
(a) int fun(auto int arg) (b) int fun(static int arg)
(c) int fun(register int arg) (d) int fun(extern int arg)
4. Which of the following uses structure? CO2- R
(a) Array of structures (b) Linked Lists
(c) Binary Tree (d) All the above.
5. What is the output of this C code? CO3- R

```
#include <stdio.h>
void main()
{
    char *s = "hello";
    char *p = s;
    printf("%p\t%p", p, s);
}
```


(a) Different address is printed (b) Same address is printed
(c) Run time error (d) Nothing

6. Which of the following are correct syntaxes to send an array as a parameter to function: CO3- R
 (a) `func(&array);` (b) `func(#array);` (c) `func(*array);` (d) `func(array[size]);`
7. The library function used to find the last occurrence of a character in a string is CO4- R
 (a) `laststr()` (b) `strstr()` (c) `strnstr()` (d) `strrchr()`
8. What is the return value of `putchar()`? CO4- R
 (a) The character written (b) EOF if an error occurs
 (c) Nothing (d) Both character written & EOF if an error occurs
9. The time complexity of a quick sort algorithm which makes use of median, found by an $O(n)$ algorithm, as pivot element is CO5- R
 (a) $O(n^2)$ (b) $O(n \log n)$
 (c) $O(n \log \log n)$ (d) $O(n)$
10. What is the advantage of bubble sort over other sorting techniques? CO5- R
 (a) It is faster (b) Consumes less memory
 (c) Detects whether the input is already sorted (d) All of the mentioned

PART – B (3 x 8= 24 Marks)

(Answer any three of the Following Questions)

11. Show the structure of a C program with its essential sections. CO1- U (8)
12. Write a program using pointers to read in an array of integers and print its elements in reverse order CO2- App (8)
13. Describe the features of pointer and its types. CO3-U (8)
14. Explain in detail about the various types of standard input and output functions. CO4- U (8)
15. Write the algorithm for merge sort with example. CO5- U (8)