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B.TECH

B.TECH 1ST SEMESTER REGULAR EXAMINATIONS, DECEMBER 2017**Programming in C****Subject Code:BBSES1050****Time: 3 Hours****Max Marks : 100****The figures in the right hand margin indicate marks.****PART-A****(10X1 = 10 MARKS)****Answer all questions.**

- The operator “++” adds the value ----- to the operand.
- The standard mathematical functions are included in the -----header file.
- is the format specifier for long int and ----- is for float type.
- An immediate exit from the loop can be achieved by a ----- statement.
- statement is used to return control from called function to calling statement.
- char *p=“hello friends”; It is valid or invalid -----
- Given:
int x,y,z,q;
x=10; y=5; z=3;
q=x>y>z;
the q value is -----
- struct date{ char a,b,c; } x;
printf(“%d”,sizeof(x));
the size of x is -----bytes.
- int x=25, *p, **q;
p=&x; q=&p;
printf(“%d”,**q);
the output is -----
- main()
{ int i=3;
do{ printf(“%d”,i); }while(--i>0);
return 0;
}
Output is -----

PART-B**(15 x 2 = 30 MARKS)****Answer any fifteen questions from the following.**

- What are the rules for naming an identifier?
- Write an example on usage of conditional operator.
- What is the difference between && and &.
- What is an array? How to initialize values to a 1D array during its declaration.
- What is the role of return statement in a function? Can we write a function which can return more than one value using return statement?
- What is a recursive functions, write an example?
- State the difference between static memory allocation and dynamic memory allocation.
- What is bit field in structure?

- 9) Write an example on nested structure.
- 10) State the syntax and example for malloc()
- 11) Identify valid and invalid statements below:

```
int a+b;
char long;
int x,y,z,p,q,w,e,r,t,y,u,i;
float QWE_TY;
```
- 12) Find the output when we execute the below statements:

```
int a,b;
a=20;
b=a>>1;
printf("%d %d",a,b);
```
- 13) what will be the output and why?

```
#include<stdio.h>
#define int char
int main()
{      int i=65; printf("size =%d",sizeof(i));
      return 0;      }
```
- 14) what will be the output and why?

```
#include <stdio.h>
#define A  1 + 2
#define B  3 + 4
int main()
{
int var = A * B;
printf("%d\n", var);
}
```
- 15) void main()

```
{      printf("%s", "C Marathon"+2); }
```
- 16) main()

```
{      static int a;
      printf("%d",a++);
      if(a<=3)
          main( );
}
```
- 17) Find the output when we execute the below statements:

```
int a,b,c,d,e;
a=10; b=20; c=15; d=25;
e=(a>b)? c : d ;
e=(e>a)? 1 : 0;
printf("%d",e);
```
- 18) Find output and justify

```
int main()
{      int x=1;
      calc(x+10);
      return 0;
}
void calc(int a)
{      a=a<<1;
      printf("%d",a);
}
```

- 19) Find the output and justify
- ```

struct a{ float x,y;
 struct b{ float p,q; }z;
}c;
main()
{ printf(“%d”, sizeof(c)); return 0;}

```
- 20) find output and justify
- ```

int main()
{
  char *p=“alok”;
  int i;
  for(i=0; *(p+i)!='\0'; i++)
    printf(“%c”,*(p+i));
  return 0;
}

```

PART-C

(6 x 5 = 30 MARKS)

Section-i

Answer any Six questions

- 1) Write a program to display weekday as per the digit given within(1 to 7), i.e: 1 - Sunday, 2- Monday, 3-Tuesday etc. Use switch..case
- 2) Write a program to input a positive number and test whether it is Armstrong number or not.
- 3) Write a program to input values into a 4X4 matrix and display the transpose of it.
- 4) Write a program to input values into two 4X4 matrices and perform matrix multiplication.
- 5) Write a program to print the pyramid


```

* * * * *
 * * * * *
  * * * *
   * * *
    *

```
- 6) Write a program to input 10 integers into an array. Create a recursive function to find the largest element present.
- 7) Write a program to create user defined function called swap having two integer pointers as its arguments and it has no return value. Call this function for interchanging two values using call-by-address.
- 8) Write a program to create a structure BOOKS having members : Book code, book name, author, cost. Store 10 books details using structure array. Find the total cost of all books and the costly book exist.

Section-ii

Answer any Two questions

(2 x 15 = 30 MARKS)

- 1)
 - a. Write a program to create a structure for product having members like product code, product name, price and quantity. Create a structure pointer to allocate memory for five products using dynamic memory allocation. Store the product details and display. **8**
 - b. Write briefly about implicit and explicit type conversions with suitable example. **7**
- 2)
 - a. Write down the difference between the followings with suitable example for each : **8**
 - (i)while vs. do..while
 - (ii)call by value vs call by address

- b. Write a program to input a positive integer and its equivalent binary number. **7**
- 3.
- a. Briefly explain all the storage classes and their characteristics. **8**
- b. Write a program to input 4 unequal numbers and find the greatest using else if ladder using UDF. **7**
- 4.
- a. What is the advantage of a character pointer over a character array? Explain the terms: array of pointers, pointer to pointer. **8**
- b. Write a program to input 3 coefficients and find the real roots of a quadratic equation. **7**

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