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Total Number of Pages : 04

B.TECH

AR-17

B.TECH 1ST SEMESTER EXAMINATIONS(BACK), NOV/DEC 2019

BBSES1050- PROGRAMMING IN 'C'

Time: 3 Hours

Max Marks : 100

The figures in the right hand margin indicate marks.

PART-A

(10X1 = 10 MARKS)

Answer all questions.

- The given statement $x=x+5$; Its equivalent statement using $+=$ is -----.
- function can be used to read a single character.
- The default value is 0 for -----storage class.
- is a user defined data type which allows us to create an alternate name for existing data type.
- the default return type of a user defined function.
- ```
main()
{ int x=5;
 printf("%d",printf("%d%d",z,z)); }

```

output is -----
- ```
main()
{ printf("%d",strlen("roni")); }

```

Output is -----
- ```
void main()
{ while(0)
 printf(" In while Loop ");
 printf("After While Loop");
}

```

The output of the code is -----
- ```
main()
{ pritf("%c",abcdef[4]); }

```

The output is -----
- ```
void fun(void);
int x=10;
main()
{ fun();}
void fun()
{ printf("%d",x++); }

```

Output is -----

**PART-B**

(15 x 2 = 30 MARKS)

Answer any fifteen questions from the following.

- 1) What is type casting. Write with a suitable example.
- 2) What is the use of `getchar()` and `putchar()`.
- 3) Write down the syntax and example of `switch..case` statement.
- 4) Write down the syntax of `else..if` ladder.
- 5) State the difference between formal parameters and actual parameters.



- 6) What is the use of library functions: isupper( ), toupper( ), islower( ), tolower( )
- 7) What is the advantage of a character pointer over character array?
- 8) What is the typedef declaration? Give suitable example.
- 9) What the difference between structure and union.
- 10) Explain how isupper(), islower() can be used?

- 11) Find the output with explanation when we execute the below statements:

```
int x,y,z,a;
x=30;y=20;z=10;
a=x>y!=z==10;
printf("%d",a);
```

- 12) Find the output with explanation when we execute the below statements:

```
int a,b,c,e;
a=10; b=20; c=30;
e=(a>b) || (b<c) && (c==50);
printf ("%d",e);
```

- 13) what will be the output and why?

```
#define SUM 10+10*10/10
void main()
{
 int a;
 a=SUM/SUM;
 printf("%d",a);
}
```

- 14) what will be the output and why?

```
#include<stdio.h>
void main()
{
 char x='a';
 switch(x)
 {
 case 'b': printf("CATHY");
 case 'a': printf("MADDY");
 case 'c': printf("NANCY");
 default : printf("SUNNY");
 }
}
```

- 15) what will be the output and why?

```
main()
{
 char *p="hello friends";
 printf("%c %c %c", *(p+4), *(p+6), *(p+8));
}
```

- 16) int sum(int, int);

```
main()
{
 int a=15, b=20;
 int x=sum(a,b);
 printf("%d",x);
}

int sum(int x, int y)
{
 int c=x+y;
 return(x);
 return(y);
}
```

- 17) Find the output when we execute the below statements:

```
int y,z,a;
y=3; z=4;
a=y*=z/=2;
printf("%d",a);
```



18) what will be the output and why?

```
main()
{
 int i,j;
 i=0; j=400;
 while(i<j) --j; ++i;
 printf("%d", i - j);
}
```

19) Given code:

```
struct dt{ int d,m,y;};
int main()
{
 typedef struct dt calen;
 calen x,*y;
 x.d=1; x.m=1; x.y=2000;
 y=&x;
}
```

Write the statement for printing the values of structure calen using pointer \*y.

20) Find the output with proper explanation

```
void fun();
int main()
{
 int i;
 for(i=1;i<=3;i++) fun()
}
void fun(){ int k=10;
printf("%d",k+=5);
}
```

### PART-C

(6 x 5 = 30 MARKS)

#### Section-i

#### Answer any Six questions

- 1) Write a program to input 3 unequal numbers and find the greatest using switch..case.
- 2) Write a program to find the greatest common divisor of given two positive integers.
- 3) Write a program print a series of numbers 1,4,9,16,25..... $n^2$  where n is given as input.
- 4) Write a program to input values into a 4X4 matrix and find the sum of its diagonal elements.
- 5) Write a program generate pascal's triangle given below:

```

 1
 1 1
 1 2 1
 1 3 3 1
 1 4 6 4 1
```

- 6) Write a program to generate Fibonacci series of N numbers using a recursive function.
- 7) Write a program to input 10 integers into an array. Create an UDF which accepts the base address of array and finds the sum of even numbers and sum of odd numbers separately.
- 8) Write a program to create a structure for employee code, name and salary. Store five employee details using structure array and display only employee names whose salary is greater than 25000.

#### Section-ii

#### Answer any Two questions

(2 x 15 = 30 MARKS)

1)

- a. Write a program to create a structure student having members like rollno, name and percentage. Store five student details using structure array. Create an user defined function that accepts the student details using a structure pointer and counts how many first division students present.



- b. Explain briefly about the basic structure of 'C' programming.
- 2)
- What is a structure? How to define a structure? Explain with a suitable example and also state the difference between a structure and union.
  - Write a C program which contains three UDF's namely add(), subtract() and multiply(). Each function accepts two integers as their arguments and calculates and returns the results.
- 3)
- Briefly explain all the storage classes and their characteristics.  
[8 marks]
  - Write a program to input 4 unequal numbers and find the greatest using else if ladder using UDF.
- 4)
- Explain the syntax and example on malloc(), calloc(). Write a program to allocate N integer memory and then input the numbers and find the average.
  - Write a program to input 3 co-efficient values and find the real roots of a quadratic equation.

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