ODD 2020
Tutorial Sheets – 4 & 5
Software Development Fundamentals – I (15B11CI111)

Course Outcomes (CO)	
CO1	Explain various phases of software development life cycle
CO2	Explain various data types, memory allocation schemes, precedence of arithmetical and logical operations, and need of array, and structures
CO3	Draw the flow chart and write the high level code for different problems
CO4	Apply and implement functions with or without pointers for different problems
CO5	Demonstrate and implement various operations like traverse, insertion, deletion, *etc.* on files

Note: Students are advised to submit their solutions to their respective tutorial faculties

Before attempting the following questions, discuss the doubts in earlier tutorials (Tutorial 1, Tutorial 2, and Tutorial 3), if any.

Q1. [CO2] What will be the output of following program?

```
#include<stdio.h>
int main()
{
        printf("%d\t",sizeof(2.5));
        printf("%d\t",sizeof(2));
        printf("%d\t%d",sizeof('A'),'A');
        return 0;
}
```

Q2. [CO2]What will be the output of the following program?

```
#include<stdio.h>
int main(){
        float me = 5.25;
        double you = 5.25;
        if(me == you)
                printf("Hey");
        else
                printf("Bye");
```

```
    return 0;
}
```

Q3. [CO2]Which program will run successfully? Also find errors, if any and discuss why.

(a)

```
int var;
int main(void)
{
var = 10;
return 0;
}
```

(b)

```
extern int var;
int main(void)
{
return 0;
}
```

(c)

```
extern int var;
int main(void)
{
var = 10;
return 0;
}
```

(d)

```
#include<stdio.h>
extern int var;
int main(void)
{
int var = 10;
printf("%d",var);
return 0;
}
```

(e)

```
extern int var = 0;
int main(void)
{
var = 10;
return 0;
}
```

Q4. [CO2] Show the output of the following code:

```
#include <stdio.h>
main() {
   char ch = 'B';
   printf("%c\n", ch);
   int x = 45, y = 90;
```

```
  printf("%d\n", x);
  printf("%i\n", y);
  float f = 12.67;
  printf("%f\n", f);
  printf("%e\n", f);
  int a = 67;
  printf("%o\n", a);
  printf("%x\n", a);
  char str[] = "Hello World";
  printf("%s\n", str);
  printf("%20s\n", str);
  printf("%-20s\n", str);
  printf("%20.5s\n", str);
  printf("%-20.5s\n", str);
}
```

Q5. [CO2]Which one of the following operator performs operations with only integer operands?

A. +
B. *
C. /
D. %

Q6. [CO2] Which one of the following statements are true in context of || (logical OR) operator

S1: Evaluation of the expression involving || operators only will stop if one of its components is evaluated as true
S2: Evaluation of the expression involving || operators only will stop if one of its components is evaluated as false
S3: Evaluation of the expression involving || operators only takes place from right to left
S4: Evaluation of the expression involving || operators only takes place from left to right

A. S1 & S2
B. S1 & S3
C. S1 & S4
D. None of the listed options

Q7. [CO2] Which one of the following is the output of the program given below?

```
#include<stdio.h>
void main()
{
   int A = -   -2
   printf("%d", A);
}
```

A. -2
B. 2
C. Will give error
D. None of the listed options

Q8. [CO2] Which one of the following is the output of the program given below?

```
#include <stdio.h>
int main()
{
   int x, y, z;
   x = 20;
   y = 30;
   z = 10;

   if(x > y, x > z)
      printf("IF BLOCK");
   else
      printf("ELSE BLOCK");
   return 0;
}
```

A. IF BLOCK
B. ELSE BLOCK
C. Will give error
D. None of the listed options

Q9. [CO2] Which one of the following is the output of the program given below?

```
#include <stdio.h>
int main()
{
   int w, x, y, z;
```

```
    x = 20;
    y = 30;
    z = 10;
    w = (x = z, y+=x, z = x+y+z);
    printf("%d %d %d %d", w, x, y, z);
}
```

A. 60, 10, 40, 60
B. 10, 10, 40, 60
C. 10, 10, 30, 60
D. None of the listed options

Q10. [CO2]Which one of the following is not a valid declaration of a variable in C?
D1: signed int x;
D2: unsigned short y;
D3: unsigned short int z;
D4: signed short w;

A. D2
B. Both D2 and D4
C. All declarations are valid
D. None of the listed options

Q11. [CO2] What will be output of the following program?

```
int main()
{
    float w, x;
    double y, z;
w = 20 / 3;
    x = 20.0 / 3;
    y = 20 / 3;
    z = 20.0 / 3;
    if(w == y)
        printf("Same");
    else
        printf("Different");
    if(x == z)
        printf("\t Same");
    else
        printf("\t Different");
    if(w == x)
        printf("\t Same");
    else
        printf("\t Different");
return 0;
```

}

A. Same Same Same
B. Same Different Different
C. Different Same Same
D. Different Different Different