M3-R4: JULY, 2014, DOEACC O LEVEL, C LANGUAGE PROGRAMMING ANSWER

1. Each question below gives a multiple choice of answers.   (1x10)

1.1 Which of the following function declaration need not have a return statement in its body?
A) int a(char *s)
B) void b(int a[], int n)
C) float *c()
D) short d(long x)

1.2 Identify the correct sequence of steps to run a program
A) link, load, code, compile and execute
B) code, compile, link, execute and load
C) code, compile, link, load and execute
D) compile, code, link, load and execute

1.3 What will be the output of the following code segment?
char *p = "Structured Programming";
printf("%s", p + 5);
A) Structured Programming
B) tured Programming
C) ctured Programming
D) There will be no output as there is a syntax error in code

1.4 Which of the following is an incorrect syntax?
A) void outerFn() {

...
int innerFn(float f) {

...
}
}
B) struct outer {

...

struct inner {

...

}I;

};
C) if (i < 10) {

…

if (x == y) {

...

}

```
...
}
D) for (i = 0; i < 10; i++) {
...
for (j = 0; j < 10; j++) {
...
}
}
```

1.5 For the following definitions

```
char a[] = "Hello World!";
int i;
```

Which of the following loop will print the output as *Hello World!*

A) for (i = 0; a[i] != '/0'; i++)
printf("%s", a[i]);

B) for (i = 0; a[i] != '/0'; i++)
printf("%c", a[i]);

C) for (i = 0; a[i] != '\0'; i++)
printf("%s", a[i]);

D) for (i = 0; a[i] != '\0'; i++)
printf("%c", a[i]);

1.6 Consider the statement given below:

```
int a[5] = {1, 2, 3, 4, 5}, *p = a;
```

Which *printf* statement will print the value of fourth element of the array?

A) printf("%d ", *(p + 3));
B) printf("%d", p[4]);
C) printf("%d ", a + 3);
D) printf("%d ", *a + 3);

1.7 What will be the output of the following code segment?

```
int x = 24, y = 39, z = 45;
z = x + y;
y = z - y;
x = z - y;
printf("\n%d %d %d", x, y, z);
```

A) 24 39 63
B) 39 24 63
C) 24 39 45
D) 39 24 45

1.8 Which of the following is the correct way to define a two dimensional array?

A) int a[ ][4];
B) int b[2, 4];
C) int c[2][ ];

D) int d[ ] [4] = {{1, 3, 5, 7}, {2, 4, 6, 8}};

1.9 What will be the output of the following code segment if *Hello there* is given as input?

```
char a[20];
scanf("%s", a);
printf("%s", a);
```

A) Hello there

B) Hello

C) "Hello there"

D) "Hello"

1.10 What will be the output of the following code segment?

```
void fn() {
static int i = 10;
printf("%d ", ++i);
}
main() {
fn();
fn();
}
```

A) 10 10

B) 11 11

C) 11 12

D) 12 12

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

2.1 A *printf* statement can be used to display output on different lines. **TRUE**

2.2 # is used to insert comments in the program. **FALSE**

2.3 The statement *fopen("data.txt", "w+")* will open a file named *data.txt* for both reading and writing. **TRUE**

2.4 Structures can have bit fields. **FALSE**

2.5 If no storage class is mentioned for a variable defined in a function then it is by default *auto*. **TRUE**

2.6 It is necessary to have *default* case in a *switch* statement. **FALSE**

2.7 A *continue* statement must be enclosed in a loop. **TRUE**

2.8 The names of parameters in a function definition and its declaration must be same. **TRUE**

2.9 *sizeof()* is a function used to determine the amount of memory occupied by a variable. **FALSE**

2.10 The address of the variable is passed to a function in call by reference. **TRUE**

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3. Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

A. union
B. Typecasting
C. strcmp()
D. "%[^\n]"
E. fseek()
F. exit()
G. Recursive functions
H. Array
I. ++
J. malloc()
K. (*p).member_name
L. Structure
M. fabs()

3.1 Terminates program **F**
3.2 Calls itself **G**
3.3 Dynamic memory allocation **J**
3.4 Space for one member only **A**
3.5 Explicit conversion **B**
3.6 p -> member_name **K**
3.7 File pointer movement **E**
3.8 String comparison **C**
3.9 Unary operator **I**
3.10 Reading line with *scanf()* **D**

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

A. goto
B. break
C. ++
D. structure
E. do…while
F. Linked lists
G. infinite
H. %.10s
I. continue

J. int
K. Array
L. fprintf
M. pointer

4.1 _____**D**_____ is used to club variables of different data types as a unit.

4.2 It is necessary to have a pointer to the next node in _____**F**_____.

4.3 _____**E**_____ loop is executed atleast once.

4.4 If there is no test condition in a *for* loop then it becomes a(n) _____**G**_____ loop.

4.5 Avoid the use of _____**A**_____ statement in the program.

4.6 An operator which can change the value of a variable on the right hand side of an expression is _____**C**_____.

4.7 If a function is defined as *fn(char a){ … }*, then its return type is _____**J**_____.

4.8 Format code in printf to print exactly 10 characters is _____**H**_____.

4.9 A _____**M**_____ variable stores the address of another variable.

4.10 _____**L**_____ can be used to write in a file.