

There are 50 questions (each 2 points) for a total of 100 points.

Exam Type: A

Do not forget to code your student ID and exam type correctly to the answer sheet. Otherwise, your answers will not be graded.

All questions are multiple choice, no points will be lost for wrong answers.

Name:	Student ID:	Section:	Signature:
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1) Which of the following is not a valid C variable identifier?

a) While **b) thelma&louise** c) _age d) or e) addictedToChaos

2) . Which of the following is not a valid C variable identifier?

a) true b) _3 **c) break** d) MONEY e) then

3) Which of the following is not a built-in C data type?

a) char **b) string** c) float d) double e) void

4) What will be the output of the following C program?

```
#include <stdio.h>
#define X 5+3
int main() {
    int a = X / 2;
    printf("%d", a);
    return 0; }
```

a) 2 b) 4 **c) 6** d) 8 e) 6.5

5) What will be the output of the following C program?

```
#include <stdio.h>
int main() {
    double x, y;
    x = 7;
    x = x / 2;
    y = x + x / 2;
    printf("%.2f %.2f", x, y);
    return 0; }
```

a) 3.00 3.00 b) 3.0 4.50 c) 3.50 3.50
d) 3.50 5.25 e) 4.50 5.25

6) What will be the output of the following C program?

```
#include <stdio.h>
int
    main
    (void) {
    int a; double b; printf("%d %.2f", a=5+3/2,
b=5+3/2);
    return 0; }
```

a) 6 6.00 b) 6 6.50
c) 7 7.00 d) 7 7.50
e) This program will not compile successfully because of bad indentation.

7) Which of the following is not a C keyword (i.e. reserved word)?

a) if b) do c) return **d) printf** e) void

8) If we want to print 2 integers 1 char 1 double and 1 float how should the format string in printf look like?

a) "%2i %c %lf %f" **b) "%i %i %c %f %f"**
c) "%2d %c %lf %f" **d) "%d %d %c %lf %f"**
e) "%d %d %c %s %f"

9) What will be the output of the following code segment?

```
double pi= 22/7;
printf("%3.2f", pi);
```

a) 3.142857 b) 3.142 c) 3.14 d) 03.14 **e) 3.00**

10) What would be the output after execution of the following code?

```
int x=5,y=3;
y+=5-y+x++;
x=y%x;
printf("%d", x);
```

a) 3 b) 5 c) 6 **d) 4** e) 2

11) What will be the output of the following code segment?

```
void main(void){
    int z=-5,y=3,x=2,v=-1,q;
    q=z++&&y++&&x++||v++;
    printf("%d %d %d %d %d",z,y,x,v,q);}
```

a) 6 4 3 0 1 b) 6 4 3 -1 1
c) 6 4 3 1 -1 d) -4 4 3 0 1
e) -4 4 3 -1 1

12) What would be the output after execution of the following code?

```
int x=2;
double y=22/5*(double)x;
printf("%.2f", y);
```

a) 2.20 b) 2.00 **c) 8.00** d) 8.80 e) 2.80

13) What will be the output of the following code segment?

```
printf("%5.3f", -20/3.0);
```

a) 6.667 b) -6.666 c) -6.67 d) 6.666 **e) -6.667**

14) Which of the following statements are true?

- (I) In the expression $x=y=5$ the order of assignment is $x=y, y=5$;
(II) Associativity has no role to play unless the precedence of operator is same.
(III) The expression of the right hand side of $\|\|$ operators doesn't get evaluated if the left hand side determines the outcome.
(IV) The $\|\|$ operator always has higher precedence than $\%$ operator.

a) II,III b) II,III,IV c) I,II,III d) II e) III

15) What will be the output of the following code segment?

```
int a=4,b=3;
a= 4*3-2+b--/2*3%2*4-2;
printf("%d",a--);
```

a) 8 b) 7 **c) 12** d) 10 e) 11

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16) What would be the output after execution of the following code?

```
int b, a=3, c=5;
b=12+a--/++c-(--a);
printf("%d", b);
```

- a) 10 b) 12 c) 9 d) 11 e) 8

17) To use a library function in a C program,

- a) Related library must be connected to the program by #include directive.
b) Related library must be connected to the program by #define directive.
c) Related library must input by scanf identifier.
d) Related library must introduce by printf identifier
e) C compiler automatically reaches the related libraries.

18) x=pow(a,b) is equivalent to:

- a) x = b^a b) x = a*b c) x = a^b
d) x = (pow*a, pow*b) e) (a, b)^x

19) Which of the below is an invalid declaration?

- a) short int x=3; b) integer x=3;
c) short x=3; d) unsigned x=3;
e) long double x=3;

Use the declarations below for the next three questions:

```
int k1=5.4, k2=4, k3;
float x1=1.8, x2=2.2, x3;
```

20) What is the result of k1+x1

- a) 6.0 b) 6 c) 7.2 d) 6.8 e) 6.9

21) What is the content of k3, where k3=x1*x2;

- a) 3.96 b) 4.0 c) 3.0 d) 4 e) 3

22) What is the content of x3, where x3=k1/k2

- a) 1.0 b) 1.25 c) 1.3 d) 1.35 e) 1.4

23) What will be printed by the following code segment?

```
# include <stdio.h>
int main (void){
printf ("%c,%d,%c,%d", 'a', 'a', 97, 97);
return 0;}
```

- a) a, 97, a, 98 b) 97, a, 97, a c) 97, 97, a, a
d) a, 97, a, 97 e) a, 97, 97, a

24) What is the output?

```
int a=1;
int b=7;
while(a<b)
b=b-a;
printf("%d ", b);
printf("%d", a);
```

- a) 0 2 b) 4 2 0 2 c) 2 2 d) 4 2 2 e) 1 1

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25) What is the output of the program below?

```
#include <stdio.h>
int main() {
int a=10, b=20, c=30, d=40, e=50;
e=a+b+c+d;
if ((a>=b) || (c<=d))
printf("%d:", e);
printf("%d\n", e); }
```

- a) 50 b) 50:50 c) 100 d) 100:100 e) 50:100

26) What is the output of the program below?

```
#include <stdio.h>
int main() {
int a=10, b=20, c=30, d=40, e=50;
e=a+b+c+d;
if ((a>=b) || (c<=d))
{
e=200;
printf("%d:", e);
e=400; }
printf("%d\n", e);
}
```

- a) 50:100 b) 100:200 c) 200:400 d) 200:200 e) 100:100

27) What is the output of the program below?

```
#include <stdio.h>
int main() {
int a=10, b=20, c=30, d=40, e=50;
e=a+b+c+d;
if (((a>=b) || (c<=d)) && ((a<=b)|| (c>=d)))
{
e=200;
printf("%d:", e);
e=400; }
printf("%d\n", e); }
```

- a) 50:100 b) 100:200 c) 200:400 d) 200:200 e) 100:100

28) What is the output of the program below?

```
#include <stdio.h>
int main() {
int a=10, b=20, c=30, d=40, e=50;
e=a+b+c+d;
if ((a>=b) || (c<=d))
printf("%d:", e);
else
printf("%d:", e);
printf("%d\n", e);
}
```

- a) 50 b) 50:50 c) 100 d) 100:100 e) 50:100

29) What is the output of the program below?

```
#include <stdio.h>
int main() {
int a=10, b=20, c=30, d=40, e=50;
e=a+b+c+d;
if ((a>=b) || (c<=d))
{
e=200;
printf("%d:", e);
e=400; }
else
printf("%d:", e);
printf("%d\n", e);
}
```

- a) 100 b) 100:100 c) 200 d) 200:200 e) 200:400

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30) What is the output of the program below?

```
#include <stdio.h>
int main() {
    int a=10, b=20, c=30, d=40, e=50;
    e=a+b+c+d;
    if (((a>=b) || (c<=d)) && ((a<=b)|| (c>=d)))
        {
            e=200;
            printf("%d:",e);
            e=400;
        }
    else
        e=300;
    printf("%d\n",e);
}
```

- a) 200:400 b) 200:300 c) 200:200 d) 300:300 e) 300:200

31) What is the output of the program below?

```
#include <stdio.h>
int main() {
    int a=10, b=20, c=30, d=40, e=50;
    e=a+b+c+d;
    if ((a>=b) || (c<=d))
        e=200;
        printf("%d:",e);
        e=400;
    printf("%d\n",e);
}
```

- a) 200 b) 200:400 c) 400 d) 400:200 e) 400:400

32) What is the output of the program below?

```
#include <stdio.h>
int main() {
    int a=10, b=20, c=30, d=40, e=50;
    e=a+b+c+d;
    if (((a>=b) || (c<=d)) && ((a<=b)|| (c>=d)))
        printf("%d:",e);
        e=400;
        e=300;
    printf("%d\n",e);
}
```

- a) 50:300 b) 100:300 c) 200:300 d) 300:300 e) 400:300

33) What is the output generated by the following program?

```
int main (void)
{ int a=30,b=20,x=1,y=2;
  if(a>=10);
  printf("a");
  if(b==20)
  printf("b");
  else; if(x>0)
  printf("x");
  else printf("y");
  return 0; }
```

- a) abx b) a c) 10 d) 10 20 1 e) 10 20 2

34) What is the output of the following code segment?

```
int a = 3;
switch(a-2) {
case 1: printf("a");
case 2: printf("aa"); break;
case 3: printf("aaa");
case 4: printf("zz"); break;
default: printf("aaaa"); }
```

- a) a b) aaa c) aaaa d) aazz e) aaaaaa

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35) What is the output of the following function?

```
int main (void)
{ char code='x'; int x=2;
  switch (code)
  {case 'x': printf("Blue");
  case 'y': printf("Yellow");
  case 'z': printf("Red"); break;
  case 't': printf("White"); break;
  default : printf("Pink");}
  return 0; }
```

- a) BlueYellowRed b) Blue c) YellowRedWhite d) RedWhite e) Pink

36) If i=4 what is the output of the below code segment?

```
if (i<10)
if (i>5) printf("i is between 5 and 10");
else printf("i is less than 5");
else printf("i is greater than 10");
```

- a) i is greater than 10 b) No output is produced c) i is between 5 and 10 d) i is less than 5 e) error: syntax error before "else"

37) What is the output of the below code segment?

```
int x=300;
if (x%8)
if (x/10>15) printf("X");
else printf("XX");printf("XXX");
```

- a) XXX b) X c) XX d) XXXX e) XXXXX

38) What will be printed after execution of the below switch statement?

```
int n, c;
switch (c = 1) {
case 1: n = 0;
case 0: n += 1;
case 2: n = n * 2; }
printf("%d", n);
```

- a) 0 b) 1 c) 2 d) 3 e) 4

39) What would be the output after execution the code below?

```
int a=0;
int b=5;
if (!a)
if (a=b++)
if (a==b) a += ++b;
else b=8;
else --b;
else a--;
printf("a=%d b=%d", a,b);
```

- a) a=12 b=6 b) a=6 b=4 c) a=6 b=5 d) a=5 b=8 e) a=6 b=7

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40) What is the output of the following program segment?

```
int x=7;
int y=3;
if (x<4 && y>4)
if (y >0)
printf("A");
else printf("B");
else if (y>1 || x >0)
printf("C");
```

- a) A b) B **c) C** d) ABC e) AC

41) What is the output?

```
for(i=0; i<=2; i++)
for(j=1; j<3; j++)
printf("%d%d", i, j);
printf("%d%d", i, j);
```

- a) 01021112212233**
b) 0102111221222
c) 011121021222
d) 01112102122233
e) 01112102122222

42) What is the output?

```
int n=0, i=9, j=0;
for(i=1, j=7; i<=j; i++, j--)
n++;
printf("%d%d%d", i, j, n);
```

- a) 170 b) 443 c) 444 **d) 534** e) 900

43) What is the output?

```
int k=456;
float t=0;
while(k/100>4){
t=t+k/100;
k=k-100;
}
printf("%f", t);
```

- a) 0.000000** b) 4.000000 c) 4.560000
d) 56.000000 e) infinite loop

44) What is the output?

```
for(i=0; i<9; i++){
printf("%d", i);
for(j=0; j<2; j++)
i=i+2;
}
```

- a) 012345678 b) 036 c) 048
d) 05 e) compile-time error

45) What is the output?

```
for(i=2; i<10; i++) {
if (i%3==0) continue;
if (i%6==0) break;
printf("%d", i); }
```

- a) 2345 b) 245 **c) 24578** d) 3 e) 39

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```
46) for(i=0; i<4; i++){
for(j=0; j<4-i; j++)
printf("%d ", __ (1)__);
printf("\n"); }
```

Which expression should be replaced with __ (1) __ for this output;

```
0 3 6 9
2 5 8
4 7
6
```

- a) $i*(i+1)+3*j$ b) $3*i+2*j$ **c) $2*i+3*j$**
d) $(i+j)*3$ e) $3*i+j*(j+1)$

47) What will be the output when the input below?

Input: 200 1000 4 30 -1

```
int n, min=50000, tot=0;
do {
scanf("%d", &n);
if (n<min) min=n;
tot=tot+min;
} while (n!=-1);
printf("%d %d", min, tot);
```

- a) 4 204 b) 4 408 c) -1 203
d) 4 1234 **e) -1 407**

48) What is the output?

```
int b=1;
while(b<10 && b>-10) {
b=b*-2;
printf("%d ", b);
}
```

- a) 1 -2 4 -8 **b) -2 4 -8 16**
c) 1 -2 4 -8 16 d) -2 4 -8
e) no output

49) How many DONE will be printed with the input 5 ?

```
int i;
scanf("%d", &i);
do{
printf("DONE");
} while(i<10);
```

- a)0 b) 1 c) 5 **d)infinite** e)10

50) What is the output?

```
int i=0, j=0;
do{
for(i =0 ; i< 5 ; i++)
j+=i;
}while(j<10);
printf("%d %d", i, j);
```

- a) 10 10 b) 0 10 c) 10 5 **d) 5 10** e) infinite loop