

There are 33 questions (each 3 points + 1 point bonus) for a total of 100 points.

Exam Type: **A**

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

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

Assume that all necessary libraries were added properly (by using "include" statements).

Default return type of the "main" function is "int". Assume that the statement "return 0;" is added to programs if necessary.

Name: \_\_\_\_\_ Student ID: \_\_\_\_\_ Section: \_\_\_\_\_ Signature: \_\_\_\_\_

1) What is the output of the following program?

```
int main()
{ char c = 'A';
  int i;
  for (i=0; i<7; i++)
  { if (i%2 == 0) continue;
    printf("%c", c+i); }
  printf("%c", c+i); }
```

- a) BDFH      b) BDF      c) ACEG  
d) ACEGH      e) ABCDH

2) What is the output of the following program?

```
int main()
{ int x=5, y=2;
  float z=1.6, result;
  result = x + x/y + y*z;
  printf("%.2f", result); }
```

- a) 10.70      b) 10.7      c) 10.2  
d) 10.20      e) 10.00

3) What is the output of the following program?

```
int main()
{ int i=0, j=0;
  for (i=3; i>=0; i--)
  { printf("%d%d", i, j);
    for (j=i; j>2; j/=2)
      printf("%d%d", i, j); } }
```

- a) 3021201101      b) 3033211201      c) 33232120  
d) 3020100      e) 333322211101

4) What is the output of the following program?

```
int main()
{ int a=-5, b=-4;
  if (a<0 && a>=b--) a -= b;
  else if (a>0 && a>=b--) b -= a;
  else a *= b;
  printf("%d %d", a, b); }
```

- a) 25 -5      b) 20 -4      c) -10 -5  
d) 30 -6      e) -5 -10

5) What is the output of the following program?

```
int main()
{ int a=5, b=2;
  do
  { if (!(a%b)) break;
    printf("%d", a);
    printf("%d", ++b); }
  while(17); }
```

- a) Nothing      b) 525354      c) -10 -5  
d) 535455      e) Infinite loop

6) How many times "CENG" is get printed?

```
int main()
{ int x;
  for (x=-1; x<=10; x++)
  { if (x < 5) continue;
    else break;
    printf("CENG\n"); } }
```

- a) 0      b) 2      c) 5      d) 6      e) Infinite

7) What is the output of the following program?

```
int main()
{ char a = 'A';
  char b = 'B';
  int c;
  c=(a-b)*(a-b)%3-3*2;
  printf("%d\n", c); }
```

- a) 0      b) -5      c) -7      d) 2.0  
e) ASCII Table needed to answer

8) What is the output of the following program?

```
int main()
{ int a=10, b=20, c;
  a+=b;
  b++;
  c=a+b*10;
  printf("%d %d %d\n", a, b, c); }
```

- a) 30 21 240      b) 20 21 230      c) 30 21 510  
d) 20 21 410      e) 10 21 220



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16) What is the output of the following program?

```
int main()
{ int a, b;
  float c, e;
  char d;
  a=10;
  b=0.990;
  c = (float) a + (float) b;
  d = 'a'+3.005; /* ASCII code of 'a'=97 */
  e = d+0.995;
  printf("%d %d %7.3f %d %7.3f\n",
        a, b, c, d, e); }
```

- a) 10 0 10.000 100 100.995  
b) 10 1 10.990 100 100.995  
c) 10 1 10.990 100 101.000  
d) 10 0 10.990 100 100.995  
e) 10 1 10.000 100 100.995

17) What is the output of the following program?

```
int main()
{ printf("%d\n", 17/2/3-3*(-2-1)); }
```

- a) 11 b) -7 c) 11.83 d) 11.0 e) -7.0

18) What is the output of the following program?

```
int main()
{ int a=1, b=2, x;
  while (a+b == 3)
  { do
    { b++; x=a+b; }
    while(b == 3); }
  printf("%d\n", x); }
```

- a) 5 b) 6 c) 4 d) 3 e) 8

19) Which of the declaration(s)/type(s) is/are valid?

- I. integer a=5.5, b=0.0001;  
II. real c=6, d=0;  
III. float e=5.5, f=5.1e-0;  
IV. char g=5.5, h='ODTU';  
V. double i=%f, j=%f;  
VI. int k=%d, l=%d, m=%d;

- a) I, II b) III, IV c) III, IV, V, VI d) III e) IV

20) Which operator is evaluated from Right to Left?

- a) = (ASSIGNMENT) b) > (GREATER THAN)  
c) == (EQUALITY) d) && (AND) e) || (OR)

21) What is the output of the following program?

```
int main()
{ int i, j, k, sum=0;
  for (i=1; i<=5; i++)
    for (j=1; j<=5; j+=2)
      for (k=1; k<=10; k++)
        { if (k % 2) continue;
          sum++; }
  printf("%d", sum); }
```

- a) 250 b) 150 c) 125 d) 75 e) 50

22) What is the output of the following program?

```
int main()
{ int x, y, z, a;
  x = y = z = a = 0;
  if ( ++x )
    if ( --y )
      if ( z++ )
        a=1;
      else a=2;
    else a=3;
  else a=4;
  printf("%d", a); }
```

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

23) What is the output of the following program?

```
int main()
{ int a=2, b=15;
  float x, y;
  x = b / a;
  y = b % 4 * 2 + x / 2 + 5 / 4 * 4;
  printf("%5.2f", y); }
```

- a) 13.50 b) 13.75 c) 14.00 d) 14.50 e) 14.75

24) Which of the following is a valid C identifier?

- I. WHILE  
II. 7\_dwarves  
III. #cMidtermWasEasy

- a) None b) I c) II d) I and II e) II and III

25) What is the output of the following program?

```
int main()
{ int x=1, y=2, z=3;
  y += x-- ? z++ : --z;
  printf("%d", y); }
```

- a) 1 b) 2 c) 3 d) 4 e) 5

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26) What is the output of the following program?

```
int main()
{ double x, y;
  x = 19;
  x = x / 2;
  y = x + x / 3;
  printf("%.2f %.2f", x, y); }
```

- a) 9.50 12.67    b) 12.7 9.50    c) 9.00 12.0  
d) 12.0 9.00    e) 9.50 12.50

27) What is the output of the following program?

```
int main()
{ double a, b;
  int result;
  a=3.5;
  b=5.00;
  result = (int)a * b;
  printf("%.2f", (double)result); }
```

- a) 17.50    b) 15    c) 17    d) 15.00    e) 17.5

28) What is the output of the following program?

```
int main()
{ int k=4;
  while (k>1)
  { if (k%2) --k;
    else if (k<2) k += 1;
    else k--;
    printf("%d", k); } }
```

- a) 111    b) 234    c) 321    d) Error    e) 347

29) How many times gg will be printed?

```
int main()
{ int i, j;
  for (i=0; i<5; i++)
  { for (j=0; j<4; j++)
    { if (i>1 || j%2==0)
      continue;
      printf("gg\n"); } } }
```

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

30) What is the output of the following program?

```
int main()
{ int i;
  for (i=1; i<=7; ++i)
  { i += 2;
    printf("%d", i); } }
```

- a) 36    b) 369    c) 35    d) 357    e) 1234567

31) What is the output of the following program?

```
int main()
{ int key, door1=3, door2=5, door3=4;
  int password=3, want_to_enter=1;
  key = ++password;
  if (want_to_enter)
  { if (key == door1)
    printf("first door");
    else if (key == door2)
    printf("second door");
    else if (key == door3)
    printf("third door");
    else printf("cannot enter"); }
  else printf("do not want to enter"); }
```

- a) first door    b) second door    c) third door  
d) cannot enter    e) do not want to enter

32) Which of the following declarations are true?

- I. unsigned char i, j;  
II. double li+j;  
III. long int B20;  
IV. unsigned short 9\_PC;  
V. double float CryFar2;

- a) I    b) IV and V    c) III    d) I and II    e) I and III

33) Which of the followings are true about switch statement?

- I. The use of default is compulsory.  
II. More than one case labels can come one after the other without any statements in between.  
III. Case labels can include variables

- a) I    b) II    c) II and III    d) I and II    e) I, II and III