

1. What is the output of the following code piece?

```
int i;
for(i=9;i<24;i+=3){
    printf("%2d",i);
    if(!(i%18))
        printf("\n");
}
```

| | | |
|--------------|--------------------|------------------------|
| a) 912151821 | b) 9121518 2124 | c) 9121518 21 |
| d) 9 1215 | e) 9121518 21 | f) 9 1215 182124 |
| 1821 | | |

2. What is the value of i right after exiting the loop?

```
int i=0;
for(;i<2;i*=2)
switch(i){
    case 0: --i;
    case 1: i--; break;
    default: i*=-1;
}
```

| | | |
|------|-------|-------|
| a) 4 | b) 8 | c) -2 |
| d) 0 | e) -1 | f) -4 |

3. What is the output of the following code piece?

```
int i=1,k;
for(k=8;i;i++){
    if(i>k) break;
    if(--k<3) continue;
    printf("%d",k);
}
```

| | | |
|---------|-----------|----------|
| a) 1234 | b) 876543 | c) 12345 |
| d) 7654 | e) 76543 | f) 123 |

4. What is the output of the following program?

```
int foo(int i){
    for(;i%2;) i--;
    return i; }

int main(void){ int i;
    for(i=7;i>0;i--)
        printf("%d",foo(i));
    return 0;
}
```

| | | |
|------------|---------|------------|
| a) 6644220 | b) 6420 | c) 7654321 |
| d) 6040200 | e) 7531 | f) 75310 |

5. What is the final value of a after the following code piece is executed?

```
int a=4;
a+=(--a * a++ +(a>>1));

```

| | | |
|-------|-------|-------|
| a) 22 | b) 16 | c) 18 |
| d) 15 | e) 12 | f) 14 |

6. What is the output of the following program?

```
int foo(int a){
    printf("%d ", a++);
    return ++a; }

int main(){ int b=1;
    b=foo(b); foo(b);
    foo(1+foo(b));
    return 0;
}
```

| | | |
|------------|------------|------------|
| a) 2 3 3 5 | b) 1 3 5 8 | c) 1 3 3 6 |
| d) 2 4 4 7 | e) 2 4 6 9 | f) 1 2 2 4 |

| | | | | | |
|----------|----------|----------|----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| e | b | d | a | f | c |

7. What is the output of the following code piece?

```
double p=3.145;           a) 0.1453.145   b) 3.145p    c) .145p
printf( "%.3lf%c",p,'p');   3.1          3.1        3.1
printf( "\n%5.1lf",p);      d) 2.1453.1    e) 3.1p3.1   f) .145 p
                           3.1          3.145
```

8. In order for the following function to print given arguments in complex number format of $R \pm jI$ where R and I are real and imaginary parts of the number and i indicating the imaginary part, what would you put in the area marked with '????'?

```
void F(float R,float I){   a) "-i%f", -I   b) "%f", I   c) "%C", I
    printf("%f",R);
    if(I<0) printf(????);  d) "i-%f", -I   e) "-i%f", I   f) "%if", -I
    else printf("+i%f",I);
}
```

9. What is the value of y after the following code piece?

```
int x=1100,y;           a) 7           b) 1100       c) 104
y=(23&( (x<<1)|61))>>2;   d) 5           e) 110        f) 3
```

10. What is printed on the screen?

```
int i,k;                 a) 11 10       b) 11 10 1-1   c) 31 30 3-1
for(i=1;i<3;++i)         21 20       21 20 2-1
for(k=1;k>-2;--k)       31 30
if(k<0) printf("\n");    d) 11 10 21 20   e) 11 10       f) 31 30
else printf("%d%d ",i,k); 21 20
```

11. What is the output of the following code piece?

```
double y=4;int i;         a) 3 3       b) 3.14 3.14   c) 4.15 4
float x=3.14;
y=(long)i=(x+=1.1);     d) 4 4       e) 3.0 3       f) 4.0 4
printf("%3.1lf %d",y,i);
```

12. The output of the following code is 126210. What should '???' and '????' be?

```
int i=0xA;                a) case 0x6:   b) default:   c) default:
labelx: switch(i>>=1){      "26"          "620"        "%d",i
    case 0xD: printf("1");
    case 0x3: printf("2");   d) case 0:     e) case 6:     f) case 6:
                                "6210"        "620"        "6"
break;
??? :printf(????);
}
if(i) goto labelx;
```

| | | | | | |
|---|---|---|----|----|----|
| 7 | 8 | 9 | 10 | 11 | 12 |
| b | a | d | e | f | c |