1. What is the final value of D after the code?
   a) 1    b) 4    c) 0
   d) 3    e) 5    f) unknown

2. What is the final value of A after the execution of the loop?
   a) 9.5   b) 8   c) -2   
   d) 10    e) 0   f) none

3. Which single line has to be corrected in order to have the function Smallest (that returns the smallest of 3 given numbers) working correctly?
   a) 4     b) 6     
   c) 3     d) 5     
   e) 1     f) 2

4. What is the intention of the first part of the logical expression?
   a) See if 0.00001 is a small number
   b) Avoid division by too small number (or zero)
   c) See if y is a variable
   d) Determine the distance of y
   e) Validate the division x/y
   f) Make y close to 0.00001

5. What is the intended operation in the expression?
   a) \( A = e^{\pi y + a^c/x} \)
   b) \( A = e^x y + a^c / x \)
   c) \( A = y(e^x + a)^c \)
   d) \( A = (e^{x+a})^{y/x} \)
   e) \( A = e^{x+a^c/x} \)
   f) \( A = e^x y + a^c / yx \)

6. Program flow stops at the breakpoint. What is the value of x at that instant?
   a) 2    b) 3    c) 4
   d) -1   e) -3   f) -2

7. You are to write a function that median of the prime numbers between given 2 numbers. What would be the function declaration?
   a) function PrimesMedian(P1,P2,P3)
   b) RT= function(N1,N2)
   c) function O=MedPrim(N1,N2,P1)
   d) function PM=MedPrim(N1,N2)
   e) PM= function PrimesMed(N1,N2,P1,P2)
   f) O=MedPrim function(P1,P2,P3)

No books, no notes, no cellphones and no calculators allowed. 60 minutes.
8. What is the value of D after the statement?
   a) 0  b) 2  c) 2.1  d) 4  e) 3  f) 2.5

   \[ D = \text{ceil}(\text{fix}(1.6) + \text{mod}(7, 2) + 0.1); \]

9. The code piece given displays the given output on the command window. What should be the code in the place marked with ....?
   a) \((k==3) || (k==5)\)  
   b) \(\text{round}(k/2)==k/2\)  
   c) \(\text{mod}(k+1,2)==0\)  
   d) \(\text{fix}(k/2)==1:4\)  
   e) \(k=3:2:9\)  
   f) \(k/2<4\)

   for \(k=3:9\)
   \[
   \text{if(...)}
   \text{fprintf(''}\%d\text{'}\text{'',k});
   \text{end};
   \]
   end
   \[
   34547494
   \]

10. Determine the number of invalid declarations (in C language).

    | int _a, _ll_ | long 4=x, 3=y; | unsigned k n; |
    | long double | char u='U';  | float flaot=4; |
    a) 1 | b) 2 | c) 3 | d) 4 | e) 5 | f) 6

11. What should be the formatting string (shown as ...) in order to use all arguments and get the output given?

    \[
    \text{float pi}=3.14159, d=0.222; \text{int i}=2; \\
    \text{printf("...",i,pi,d,pi);}
    \]

    a) 20th = 3.1/0.22 pi=3.1416
    b) \%d0th = %3.1f/%4.2f\text{npi}=%6.4f
    c) \%dth = %1.1f/%1.2f\n pi=%f
    d) \%dth = %f/%f\n\text{pi}=%d

12. Determine what is wrong with the following expression.

    \[ D = ((x+b)^2+(y+c^2)) (z-a); \]

    a) nothing is wrong  
    b) missing paranthesis  
    c) misplaced paranthesis  
    d) invalid operator  
    e) invalid identifier  
    f) missing operator

13. What is the command window output of the following entry in MATLAB?

    >>2.1:1.1:-2.1

    a) 2.1 1.0 -0.1 -1.2  
    b) [2.1 -1.1 -2.1]  
    c) 0.9091  
    d) 2.1 1.1 0.1 -1.1 -2.1  
    e) 2 1 0 -1 -2  
    f) 4.0091

14. The following script calculates the average of random numbers to see if the average approaches the mean (expected value) within finite number of trials. When the average is close to the mean it prints out the number of trials. What is the missing statement in the code?

    a) while a>0 in line 2  
    b) k=k+1 between 4 and 5  
    c) a=round(a) between 3 and 4  
    d) k=k+1 between 2 and 3  
    e) k=k+1 between 7 and 8  
    f) Nothing is missing

    \[
    1. a=0; k=0; \\
    2. \text{while 1} \\
    3. a=a+(\text{rand()-0.5}); \\
    4. \text{if(abs(a)/k<0.001)} \\
    5. \text{fprintf(''}\%d\text{'}\text{'',k);} \\
    6. \text{break;} \\
    7. \text{end;} \\
    8. \text{end;}
    \]