المستوي الثاني
شعبة :كيمياء خاصة (نظام ساعات معتمدة)
الفصل الدراسى الاول 2014- 2015 م
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نموذج اجابة – نصف ورقة
المـــــادة: حاسب
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Department of Mathematics | Final Exam- Second Year | Time: 1 Hour

Fac. of Science, Benha Univ. | Computer Science | 21 December 2014

Please answer all the following questions. Total Marks = 40 points:-

Question 1:

a) Given the arrays

x=[linspace(0,1,5) 1.2 4/3] and A=[eye(1,4);1 -2 2 3;-1 2 0 5;-1 2 1 3].

What is the result of the following statements?

1) A(:,1)./A(:,4)	2) A(1:2:3,:)=[]	3) g = x(end:-2:1)
4) x(6) = []	5) diag(A)	6) diag(x(1:3))
7) A.^2	8) sum([x,-1,5])	9) length(x)
10) mean(x)	11) [d,n]=max(A(:))	12) A-2*eye(4)
13) A(1,:) + [0 0 -2 1]	14) who	15) whos
16) size(A)	17) sort(A(3,:),'descend')	18) R1= (x>=1)
19) A(:,1)==1&A(:,3)<1	20) format bank; x(7)	21) ceil(x(2))
22) floor(x(4))	23) round(x(6))	24) fix(x(3))
25) rem(A(3,4),A(3,2))		

Question 2:

a) Write the steps and the syntax to plot the function

$$y = \cos(x), \quad 0 \le x \le 5\pi$$

with green-dashed line.

b) What are the values of y and z after executing the following segment code?

```
n=1;
while(n<7)
     y(n) = n+5;
     n = n+1;
       if(n==6)
          z=y+n;
       end
end
```

With My Best Wishes

Dr. Abdelhameed Mohamed

Answer Model

Question 1:

x=[linspace(0,1,5) 1.2 4/3] and A=[eye(1,4);1 -2 2 3;-1 2 0 5;-1 2 1 3].

```
1) A(:,1)./A(:,4)
ans =
      Inf
    -0.3333
    -0.2
    -0.3333

2) A(1:2:3,:)=[]
A =
   1  -2   2   3
  -1   2   1   3


3) g = x(end:-2:1)
g =
   1.3333   1   0.5  0

4) x(6) = []
x =
    0   0.25   0.50     0.75    1.00   1.3333

5) diag(A)
ans =
     1
    -2
     0
     3

6) diag(x(1:3))
ans =
      0      0        0
      0      0.25     0
      0      0        0.50
```

```
7) A.^2
ans =
     1     0     0     0
     1     4     4     9
     1     4     0    25
     1     4     1     9

8) sum([x,-1,5])
ans =
     9.0333

9) length(x)
ans =
     7

10) mean(x)
ans =
     0.7190

11) [d,n]=max(A(:))
d =
     5
n =
     15

12) A-2*eye(4)
ans =
    -1     0     0     0
     1    -4     2     3
     1     2    -2     5
    -1     2     1     1

13) A(1,:) + [0 0 -2 1]
ans =
     1   0  -2   1
```

```
14) who
Your variables are:
     x   A

15) whos
Name      Size       Bytes        Class
 x         1x7        56          double
 A         4x4        128         double


16) size(A)
ans=
    4   4

17) sort(A(3,:),'descend')
ans =
     5   2   1   0

18) R1= (x>=1)
R1 =
     0   0   0   0   1   1   1

19) A(:,1)==1&A(:,3)<1
ans =
      1
      0
      0
      0

20) format bank; x(7)
ans =
     1.33
```

```
21) ceil(x(2))
ans=
    1

22) floor(x(4))
ans=
    0

23) round(x(6))
ans=
    1

24) fix(x(3))
ans=
    0

25) rem(A(3,4),A(3,2))
ans=
    1
```

Question 2:

(a)

```
>> x = 0:5*pi;
>> y = cos(x);
>> plot(x,y,'g--')
```

b)

```
n = 1  ---> y(1) = n+5 = 6, n = n + 1 = 2
       ---> y(2) = n+5 = 7, n = n + 1 = 3
       ---> y(3) = n+5 = 8, n = n + 1 = 4
       ---> y(4) = n+5 = 9, n = n + 1 = 5
       ---> y(5) = n+5 = 10, n = n + 1 = 6
            z = y+n =
             12  13  14  15  16
       ---> y(6) = n+5 = 11, n = n + 1 = 7
       ---> stopped
```

```
The values of y and z after executing the code are:
      y = 6   7   8   9   10   11
      z = 12   13   14  15  16
```