Menoufiya University
Faculty of Engineering, Shebin El-Kom
Production Engineering and Mechanical Design Department
Second Semester Examination,2015-2016

Subject: Computer Application (1)
Code: PRE123 / Year :First Year
Time Allowed : three hours
Total Marks : 60 marks
Date of Exam : 5 / 6 / 2016

Solve the following three questions [Note: marks of (Q.1), (Q.2),(Q.3) are "20,20,20" marks respectively]

(Q.1): Fill the following ten statements using the ten issues which after these statements:-

1) In Fortran, statement [IF (F.....6) T=4] means that (T) will equal (4) when (F) equals to (6).
2) Statement [Dim N As Byte], can declare in V-Basic, integer variable (N) as (0,1,2,3,4, , ...).
3) In Fortran , the programmer can use [NE] to check condition which means that " .....".
4) The code in V-Basic which has statement [..... I=1 to 9] must include also statement [Next I].
5) Statement [I =6: For J=2 To 8: S=S +4 * I +(J - 2) ^ 2:Next J] make value (S-5) equals (.....) in V.B.
6) [IF (R.GT.K) M.....5] is simplest form of IF-Statement in V.B. where no need for writing End If.
7) [L =(Ax*0.666/(.....^0.5)) ^0.5] calculats side length (L) of equilateral hexagon of area (Ax) in V.B.
8) In V.B, function ..... (T1.text) can separate only numeric numbers of contents of TextBox (T1).
9) In V.B, statement [R =9^ 0.6: If R > 3 Then For J=1 To 7: T= J + 2 * T: Next J] make T+9= .....
10) In Fortran , code which has statement [..... 20 I=1,15] must include also statement [20 CONTINUE].

Choose from these the following words to fill the ten previous statements:

(256 , Val , 3 , = , 255 , ≠ , 254 , Do , EQ , For)

(Q.2): Student designed a program using (Fortran), user of this program can compile and run this program. Hence, computing volume (V) of glass cube which has complete hole as cylinder conside on its center by entering value (L) which is length of cube's side and value (d) which is the diameter of hole cylinder, where (L > d) and (L ≥ 10 cm).

a) The code of this Fortran program is shown beside this question but it contains some mistakes. Write this code "as it is" in the answer paper and draw a circles around the mistakes, then write corrections of mistakes over these mistakes..... (16 marks)

b) Write the general conditions which must be considered through giving names to variables in Fortran. (4 marks)

Incorrect Code

```
RAEL ; L , d , V, pi
PRINT*,  Enter: L & d  in cm
READ(*,*)  L , d
pi=22\7
IF (L.LE.10)  Then
IF (L > d)  Then
V=L**3-L*(pi/2)**d*2
WRIT(*;*)  ' V (in cm^3)= ' , V
End IF
End IF
IF (L.LT.10)  PRINT*, ' wrong   L '
IF (L.NE.d)  PRINT*, 'wrong L&d '
STOP
End
```

'Q.3): Student designed program in (Visual-Basic. By activating one of two OptionButtons of names (O & Q), user can compute volume of solid cylinder of hight (9 cm) or volume of same cylinder but has hole as cone where tip of cone conside with center of cylinder's base and by selecting diameter (d2) of cylinder and diameter (d1) of cone using ScrollBars (H&Z).

a) Draw form of program including details.

b) Code of this program is shown beside this question but it contains some mistakes. Write this code "as it is" in answer paper and draw circles around mistakes, then write corrections of mistakes over mistakes.

Incorrect V.B. Code

```
Dim d2 , d1 , pi  As Single
Private Sub Calc_Click()
d2 = 0.1 * H.Value : d1 = 0.1 * Z.Value  : pi = 3.14 / 2
If O.Val = True Then   V = 9 * pi * d2 ^ 2
If Q.Value .EQ. True Then
V = 9 * pi * (d2 ^ 2 - (1 / 6) * d1 ^ 2)   :  End If
txtV.Text = V
End Sub
Private Sub H_ Click ()
T.Text = 0.1 * H.Value:  Z.Min = H.Value :  Calc_Click
End Sub
Private Sub Z_Change()
U.Text = 10 * Z.Value  :  Calc-Click
End Sub
```

With our best wishes *(Dr/ Mohamed Allam & DR/ Khaled Khader)*

This exam contributes "by measuring" in achieving Programme Academic Standards according to NARS

Question Number	Q1,1&2&3&4&5&6		Q1,10	Q1,7&8&9	Q2-a	Q2-b	Q3-b		Q2-b	Q3-b	Q3-a	Q3-b
Skills	a1-1	a15-1	a15-2	a19-1	B1-1	b16-1	b17-1		c6-1	c6-2	C13-1	c14-1
	Knowledge & Understanding Skills				Intellectual Skills				Professional Skills			