WALTER SISULU UNIVERSITY

2020 DEGREE AND DIPLOMA TESTS:

# SUPPLEMENTARY 2 – QUESTION PAPER

SUBJECT : DEVELOPMENT SOFTWARE 1 MAINSTREAM

: DEVELOPMENT SOFTWARE 1 EXTENDED YEAR 2

SUBJECT CODE : DES15P0, DEV11P0, EDS12P0 :

EXAMINER/S : MS L V D MERWE / MS TWETWA-DUBE

MODERATOR : MR P NOMNGA

DURATION : 90 minutes online

MARKS : 50

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| INSTRUCTIONS  INSTRUCTIONS  This test is for marks and test conditions for a closed book test apply.  During the test: You may not consult notes, slides, videos etc.; you may not photograph or record the test; you may not communicate with anyone in any way; you may not use email, navigate to other sites, etc.  Follow the instructions shown. Click > to move to the next question. You may not change an answer once submitted. There are 13 short questions and 1 long question.  If the network goes down, you should be able to continue from where you were.  You are only allowed one attempt. Results will be shown after they have been graded by the lecturer.  YOU HAVE 90 MINUTES TO ANSWER ALL QUESTIONS    OPTIONS  Show instructions: yes Open in new window: yes  Multiple attempts: no Force completion: no  Auto submit : on Set timer: 90 minutes  Include in grade centre  Test Presentation: one at a time, prohibit backtracking, randomize questions \*\* Randomise answers in multiple choice |

QUESTION 1 [ 1 mark ]

. Syntax errors appear when the programmer is writing the instructions and they are most often caused by spelling mistakes

1. TRUE
2. FALSE

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QUESTION 2 [ 1 mark ]

. Android is an example of system software

1. TRUE
2. FALSE

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QUESTION 3 [ 1 mark ]

.In a DO WHILE loop, the value in the index is automatically increased by the step value

1. TRUE
2. FALSE

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QUESTION 4 [ 5 marks ]

. The following 2 blocks of code will always produce the same result:

DECLARE J, X AS REAL

FOR J = 4 to 0 STEP -1.5

X = J + 3

DISPLAY X

NEXT

AND

DECLARE J, X AS REAL

J = 4

DO WHILE J > 0

X = J + 3

DISPLAY X

J = J - 1.5

LOOP

1. TRUE
2. FALSE

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QUESTION 5 [ 3 marks]

. Evaluate the following expression:

10 \ 3 ^ 2 < 3 \* 4 - 10 AND NOT 5 \* 2 > 10 Mod 2 + 2 AND 2 - 2 < > 2

1. TRUE
2. FALSE

-------------------------------------------------------------------------------------------- QUESTION 6 [ 3 marks ]

. Given that XX = 13, YY = 4, and ZZ = 22, the following code will display TRUE on the screen:

IF (YY + 4 < ZZ) OR (XX < YY \ 2) THEN DISPLAY “TRUE” ELSE DISPLAY “FALSE” END IF

1. TRUE
2. FALSE

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QUESTION 7 [ 3 marks ]

. The following code correctly accumulates the marks for 20 tests in the variable TOTAL:

DECLARE J, MARKS, TOTALMARKS, TOTAL AS INTEGER

FOR J= 1 TO 30

ACCEPT MARKS

IF MARKS < > 0 THEN

TOTAL = MARKS + TOTAL

ENDIF

NEXT J

a. TRUE

b. FALSE

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QUESTION 8 [ 3 marks]

. What is displayed on the screen by the following code:

DECLARE Y AS INTEGER

Y = 2

DO WHILE Y < 6

Y = Y ^ 2

LOOP

DISPLAY Y

1. NONE OF THESE
2. 8
3. 2
4. 4

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QUESTION 9 [ 3 marks ]

. What is displayed on the screen by the following code:

NUM1 = 1

DO WHILE NUM1 < 2

NUM2 = 3

NUM1 = NUM1 + 1

IF NUM1 = 2 THEN

NUM3 = NUM3 + NUM1

END IF LOOP

DISPLAY NUM1

1. 2
2. 3
3. 1
4. NONE OF THESE

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QUESTION 10 [ 3 marks]

. What is displayed on the screen by the following code:

DECLARE COLOUR, RED AS STRING

COLOUR = RED

RED = “A”

SELECT CASE COLOUR

CASE IS <> “RED”

DISPLAY “COLOUR “ RED

CASE ELSE

DISPLAY “RED”

END SELECT

1. NONE OF THESE
2. RED
3. COLOUR
4. COLOUR RED

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QUESTION 11 [ 3 marks]

. What is displayed on the screen by the following code if the input is: 21 50 63

DECLARE J, AGE,TOTAL, COUNT1 AS REAL

FOR J = 1 to 3

ACCEPT AGE

SELECT CASE AGE

CASE IS < 60

COUNT1 = COUNT1 + 1

CASE 63, 50, 21

COUNT1 = 0

END SELECT

NEXT J

DISPLAY COUNT1

a. 0 b 1

c. 2

D. NONE OF THESE

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QUESTION 12 [ 3 marks]

. What is displayed on the screen by the following code if the input is: M 32

DECLARE AGE AS INTEGER

DECLARE GENDER, MSG AS STRING

ACCEPT GENDER

ACCEPT AGE

IF GENDER = “M” THEN

MSG = “BONUS”

ENDIF

SELECT CASE AGE

CASE IS < 35

MSG = “NO BONUS”

CASE ELSE

MSG = “BONUS”

END SELECT

DISPLAY MSG

1. NO BONUS
2. BONUS
3. MSG D. NONE OF THESE

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QUESTION 13 [ 3 marks ]

. What is displayed on the screen by the following code if 4 is input:

DECLARE Y AS REAL

ACCEPT Y

SELECT CASE Y

CASE IS < > 3

DISPLAY "CASE 1"

CASE 3, 4

DISPLAY "CASE 2"

CASE 4 to 10

DISPLAY "CASE 3"

END SELECT

1. CASE 1
2. CASE 2
3. CASE 3
4. NONE OF THESE

QUESTION 14 [ 15 marks ]

Thandi Garden Centre sells vegetables to local people.

The types of vegetables with their codes and price per kg are shown in the table below:

|  |  |  |
| --- | --- | --- |
| VEGETABLE | CODE | PRICE PER KG |
| Potatoes | P | R8.50 |
| Lettuce | L | R2.99 |

They want a program which will accept the code for the type of vegetable (P or L), and the number of kgs the person buys.

For each person the program must calculate: a. the total amount before VAT

* 1. the VAT amount (15% of the total before VAT)
  2. the total amount including VAT

The program must use a FOR loop to repeat the input for 1000 people and accumulate and count as required.

When there is no more input, the program should display the following - each with a meaningful message:

* + 1. the total amount before VAT charged for all of the Potatoes bought
    2. the total VAT amount charged for all of the vegetables bought NOTE: YOU MUST USE A SELECT CASE – you may not use any IFs

Do the following:

a. Write the pseudocode for the program. [ 15 marks ]