WALTER SISULU UNIVERSITY

2020 DEGREE AND DIPLOMA TESTS:

SUPPLEMENTARY – 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 S TWETWA

MODERATOR : MR P NOMNGA

DURATION : 180 minutes online (3 hours)

MARKS : 60

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 17 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 180 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: 180 minutes

Test Presentation: one at a time, prohibit backtracking, randomize questions

QUESTION 1 [ 1 mark ]

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

a. FALSE

b. TRUE

QUESTION 2 [ 1 mark ]

. MS Office 365 is an example of system software

a. FALSE

b.TRUE

QUESTION 3 [ 1 mark ]

At this stage the program is working correctly, the object code is installed for the user and the user is trained how to use it

1. None of these
2. Coding
3. Testing
4. Maintenance

QUESTION 4 [ 1 mark ]

. A compiler translates instructions into

1. Machine Language
2. Assembler Language
3. Java
4. NONE OF THESE

QUESTION 5 [ 1 mark ]

. Which statement is accurate (correct) about Iteration control structures

a. A set of instructions can be repeated a specific number of times or until a condition is met

b. No instructions can be repeated

c. A set of instructions can be repeated only a specific number of times then the program terminates

d. None of these

QUESTION 6 [ 3 marks]

The following code displays 6 on the screen

DECLARE NUMBER AS INTEGER

NUMBER = 3

DO WHILE NUMBER < 5

NUMBER= NUMBER \* 3

LOOP

DISPLAY NUMBER

1. TRUE
2. FALSE

QUESTION 7 [ 3 marks]

. The following code displays RED on the screen:

DECLARE COLOUR, RED AS STRING

RED = “A”

SELECT CASE COLOUR

CASE IS <> “RED”

DISPLAY RED CASE ELSE DISPLAY “RED”

END SELECT

a. TRUE

b. FALSE

QUESTION 8 [ 3 marks]

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

DECLARE VAR1, VAR2 AS REAL

VAR1 = 20

VAR2 = VAR1 \ 4

IF VAR2 \* 5 > 30 OR VAR1 > VAR2 \* 3 THEN

DISPLAY “VAR1”

ELSE

DISPLAY “VAR2”

ENDIF

1. VAR1
2. NONE OF THESE
3. 20
4. VAR2

QUESTION 9 [ 3 marks ]

. What is displayed on the screen by the following code if 5 is input:

DECLARE NUMBER AS REAL

ACCEPT NUMBER

SELECT CASE NUMBER

CASE 5

DISPLAY "CASE 1"

CASE 3 TO 5

DISPLAY "CASE 2"

CASE 5 TO 10

DISPLAY "CASE 3"

END SELECT

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

QUESTION 10 [ 3 marks ]

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

WAGE = HOURS \* 20

IF HOURS > 40 THEN

WAGE = HOURS \* 30

ENDIF

AND

IF HOURS >= 40 THEN

WAGE = HOURS \* 30

ELSE

WAGE = HOURS \* 20

ENDIF

a. TRUE

b. FALSE

QUESTION 11 [ 3 marks ]

.What value is displayed on the screen by the following code if these values are input: 10 30 99

DECLARE BOOKS, TOTAL, COUNT AS INTEGER

ACCEPT BOOKS

DO WHILE BOOKS <> 99

IF BOOKS < 10 OR BOOKS >= 99 THEN

COUNT = COUNT + 1

ENDIF

ACCEPT BOOKS

LOOP

DISPLAY COUNT

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

QUESTION 12 [ 3 marks ]

. Evaluate the following expression:

( 9 < 2 ^ 2 + 5 ) OR ( 8 \* 3 = 4 + 5 MOD 3 ) OR NOT ( 7 < 7 \ 2)

1. TRUE
2. FALSE

QUESTION 13 [ 3 marks ]

. What is displayed on the screen by the following code if the input is: F 35

DECLARE AGE AS INTEGER

DECLARE GENDER, MSG AS STRING

ACCEPT GENDER

ACCEPT AGE

IF GENDER = “F” THEN

MSG = “BONUS”

ENDIF

SELECT CASE AGE

CASE IS < 35

MSG = “NO BONUS”

CASE ELSE

MSG = “BONUS”

END SELECT

DISPLAY MSG

1. BONUS
2. NO BONUS
3. MSG
4. ONE OF THESE

QUESTION 14 [ 3 marks ]

. The following code displays 4 on the screen:

W = 1

DO WHILE W < 2

K = 4

W = W + 1

IF W = 2 THEN

K = K \* 2

ENDIF

LOOP

DISPLAY K

1. TRUE
2. FALSE

QUESTION 15 [3 marks ]

. The following code correctly counts the number of patients not aged 50 years in the variable COUNT1

DECLARE J, AGE,TOTAL, COUNT1 AS REAL

FOR J = 1 to 50

ACCEPT AGE

SELECT CASE AGE

CASE IS <> 50

COUNT1 = COUNT1 + 1

END SELECT

NEXT J

1. TRUE
2. FALSE

QUESTION 16 [ 5 marks ]

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

DECLARE SALES, DISCOUNT AS REAL

ACCEPT SALES

IF SALES >= 20000 THEN

DISCOUNT = 0.2 \* SALES

ENDIF

IF SALES > 5000 AND SALES < 20000 THEN

DISCOUNT = 6000

END IF

IF SALES <= 5000 THEN

DISCOUNT = 0

END IF

AND

DECLARE SALES, DISCOUNT AS REAL

ACCEPT SALES

SELECT CASE SALES

CASE IS > 20000

DISCOUNT = 0.2 \* SALES

CASE 5000 TO 20000

DISCOUNT = 6000

CASE IS < 4000

DISPLAY “NO DISCOUNT”

END SELECT

1. TRUE
2. FALSE

QUESTION 17 [ 5 marks ]

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

DECLARE J, X AS REAL

FOR J = 0 to 2 STEP 0.5

X = J + 3

DISPLAY X

NEXT

AND

DECLARE J, X AS REAL

DO WHILE J < 2.5

X = J + 3

DISPLAY X

J = J + 1.5

LOOP

1. TRUE
2. FALSE

QUESTION 18 [ 15 marks ]

XX stores is selling towels at different prices depending on size as shown in the table:

|  |  |  |
| --- | --- | --- |
| SIZE | CODE | PRICE PER TOWEL |
| FACE | FT | 28 |
| HAND | HT | 42 |
| BATH | BT | 64 |

They want a program which will accept the size (FT, HT, BT) and the quantity of towels wanted.

Use a DO WHILE to repeat the input until XX is input for the size. Accumulate and count as required. When there is no more input, display the following (each with a meaningful message):

* + the total quantity of hand towels sold
  + the total price paid for all of the bath towels sold

Do the following:

* 1. Write the pseudocode for the program. [ 15 marks ]