FETAC
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Bronnta ag **QQI**

Comhairle na nDámhachtainí Breisoideachais agus Oiliúna

Further Education Training and Awards Council

Computer Programming

C20013

30th April 2013

10:00 - 12:00

Duration: 2 hours

Instructions:

1. Return this exam paper when finished
2. Write your exam number on your answer book **and** on this exam paper

This exam counts for 40% of the module

Computer Programming 2013

CTI Senior College, Clonmel

Question 1. Total 40 marks.

(a) This program contains 6 errors that will stop it from compiling. List the errors.

6 * 5 marks

```perl
#!/usr/bin/perl
use strict;
#
my (@sentence, $one, $count, $need)
@sentence=split("-", "each-and-every-part.");
Scount = 0;
foreach $one (@sentence) {
  print "$count $one \n"; }
  $count+;
}
elsif ($count > 10) {
  print 'lotsofwords";
}
```

1	
2	
3	
4	
5	
6	

(b) There is one error in this code snippet. Mark the error and identify it as either a *syntax* error or a *semantic* error.   **5 marks**

```perl
print "Enter a number: ";
$data == <STDIN>;
if ($data > 500) {
  print "Bignum";
}
```

(c) Why is indentation used in computer programs?   **5 marks**

Question 2. Total 40 marks.

(a) Write a **while** loop that writes out the even numbers from 50 to 10:   *10 marks*

(b) Write the general form of the **if..elsif..else** statement: *10 marks*

(c) The following perl code will compile and run but for any of at least 4 reasons will not generate the desired output. Why?

*4 * 5 marks*

```perl
#!/usr/bin/perl
# Convert sample sentence to all lowercase,
#
my ($sentence, $result, @letters, $letter);
$sentence = "THIS iS Some SAmPle TeXT.";
$result = "";
@letters = split ("", $sentance);
foreach $letter (@sentence) {
  if (($letter gt "A") && ($letter le "Z")) {
    $letter = chr(ord($letter)+65);
  }
  $result = $result.$letter;
}
print "$result\n";
```

1	
2	
3	
4	

Question 3. Total 40 marks.

(a) What screen output is generated by this short program: **10 marks**

```perl
#!/usr/bin/perl
printf "%c%c%c%c%c%c%c%c%c%c%c%c%c%c%c%c\n",
35,75,101,101,112,32,73,116,32,83,105,109,112,108,101,35;
```

(b) Indicate the values in each of the variables **$va**, **$vb** and **$vc** after this program finishes:

3 * 10 marks

```perl
#!/usr/bin/perl
use strict;
my ($num, $va, $vb, $vc);
$num = 0;
$va = $num * 2;
while ($num <= 9) {
  $num=$num+1;
}
$vb = 12;
$vc = $num * 2;

print ("$va, $vb, $vc\n");
```

Variable	Value
$va	
$vb	
$vc	

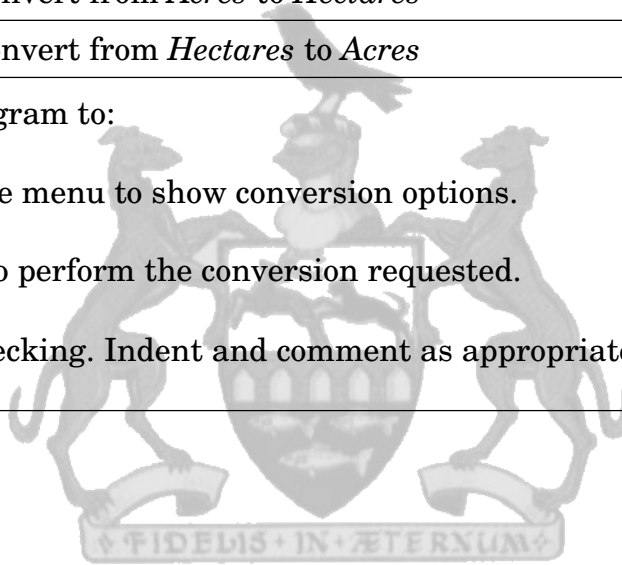## Question 4. Total 40 marks.

To convert from *Acres* to *Hectares*	ha=acres/2.4711
To convert from *Hectares* to *Acres*	acres=ha*2.4711

Write a short perl program to:

1) Present a simple menu to show conversion options.

2) Take all steps to perform the conversion requested.

Include some error checking. Indent and comment as appropriate.   *40 marks*

Figure 1. The ASCII table.

		032 SP	033 !	034 "	035 #
036 $	37.00%	038 &	039 '	040 (	041)
042 *	043 +	044 ,	045 –	046 .	047 /
048 0	049 1	050 2	051 3	052 4	053 5
054 6	055 7	056 8	057 9	058 :	059 ;
060 <	061 =	062 >	063 ?	064 @	065 A
066 B	067 C	068 D	069 E	070 F	071 G
072 H	073 I	074 J	075 K	076 L	077 M
078 N	079 O	080 P	081 Q	082 R	083 S
084 T	085 U	086 V	087 W	088 X	089 Y
090 Z	091 [	092 \	093]	094 ^	095 _
096 `	097 a	098 b	099 c	100 d	101 e
102 f	103 g	104 h	105 i	106 j	107 k
108 l	109 m	110 n	111 o	112 p	113 q
114 r	115 s	116 t	117 u	118 v	119 w
120 x	121 y	122 z	123 {	124 |	125 }
126 ~	127 □				
Printable alphanumeric and punctuation characters used in normal document text					