

Name: \_\_\_\_\_

PPSN: \_\_\_\_\_



**Quality and Qualifications Ireland**

**Computer Programming**

**C20013**

8<sup>th</sup> May 2014

10:00 - 12:00

**Duration: 2 hours**

**Instructions:**

1. Answer questions in the spaces provided
2. Return this exam paper when finished
3. Write your exam number on your answer book

**You may not:**

1. You may NOT use a calculator

**This exam counts for 40% of the module**

Computer Programming 2014

**CTI Senior College, Clonmel**

### Question 1. Total 40 marks.

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

**6 \* 5 marks**

```
#!/usr/bin/perl
use struct;
my ($dayOfWeek);
my @days=("Sun", "Mon", "Tues", "Weds", "thurs", "Fri", "Sat");
$dayOfWeek=<STDIN>;
chomp $dayOfWeek
foreach (0..6) {
    print "$days[$_]";
    if ($_ == $dayOfWeek) {
        print " (that's today)";
    }
    else {}
    print "\n";
}
print "Done\n";
}
```

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**

```
$lives--;
if ($lives = 0) {
    print "Game Over";
}
```

(c) What does the sigil @ indicate about a variable?

**5 marks**

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## Question 2. Total 40 marks.

(a) Write a **foreach** loop that writes out the numbers from 5 to 15: **10 marks**

--

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

--

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

**4 \* 5 marks**

```
#!/usr/bin/perl
# Convert input value (assumed to be miles) to kilometres
# (divd by 5 mult by 8)
use CGI;
my $cgi= new CGI;
my $miles = $cgi->param('miles');
my $kilometres;
if ($miles != 0) {
    $kilometres= ($miles/5)**8;
}
else {
    $kilometres=0;
}
print <<endbit;
<html><body>
You entered $miles miles which is Skilometres kilometres.
</body></html>
endbit
```

1
2
3
4

### Question 3. Total 40 marks.

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

**10 marks**

```
#!/usr/bin/perl
printf "%c%c%c%c%c%c%c%c%c%c%c%c%c%c%c%c%c%c%c\n", 84, 104,
105, 115, 32, 99, 97, 110, 39, 116, 32, 98, 101, 32, 114, 105,
103, 104, 116;
```

(b) Indicate the values in each of the variables **\$a**, **\$top**, **\$bottom**, **\$step** and **\$count** after this program finishes:

**5 \* 6 marks**

```
#!/usr/bin/perl
use strict;
my ($count, $a, $top, $bottom, $step);
$bottom=1;
my $top = 50;
$a=$bottom/$bottom;
$step = $a * 5;
$bottom--;
$count=$bottom;
while ($count <= $top) {
    $count=$count + $step;
}
$a = $count * 2;

print ("a, top, bottom, step, count\n");
```

Variable	Value
<b>\$a</b>	
<b>\$top</b>	
<b>\$bottom</b>	
<b>\$step</b>	
<b>\$count</b>	

**Question 4. Total 40 marks.**

To convert <i>pounds</i> weight to <i>kilograms</i> weight: <i>multiply</i> by 0.453592	$\text{kg} = \text{lb} * 0.453592$
To convert <i>kilograms</i> weight to <i>pounds</i> weight: <i>multiply</i> by 2.20462	$\text{lb} = \text{kg} * 2.20462$

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 ①					
Printable alphanumeric and punctuation characters used in normal document text						