Comhairle na nDámhachtainí Breisoideachais agus Oiliúna
Further Education and Training Awards Council

Computer Programming C20013

May 2011

Duration: Two Hours

INSTRUCTIONS TO CANDIDATES:

*Answer any **three** questions*

All questions carry equal marks

Answer the questions using the spaces in this exam booklet

Return this question & answer paper when finished

This written exam counts as 40% of the total module

NAME (PRINT):_____

PPS NUMBER:_____

DATE:_____

Question 1. Total 40 marks.

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

6 * 5 marks

```
#!/user/bin/perl
$first name = "";
$loop = 1;
while ($loop <= 3)
{
  Print "Type your name; ":
  $first_name = <STDIN>;
  if ($first_name eq "Bill") {
    print "You are Bill";
  }
  elseif ($first_name eq "Adam") {
    print "You are Adam";
  }
  else
    print "Hello, $forst_name";
  }
  $loop=$loop+1;
}
```

1	
2	
3	
4	
5	
6	

(b) There is an error in this code. Is it a *syntax* error or a *semantic* error? ***10 marks***

```
$data = <STDIN>;
if ($data = 10) {
  print "Ten."; }
```

Question 2. Total 40 marks.

(a) Write the general form of the ***if...elsif...else*** *statement:* ***15 marks***

(b) Write the general form of the **while** statement: ***5 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

```
#!/usr/bin/perl
# A short demonstration program.
# This program should write out all the numbers
# from 1 to 20, one number per line.
$control = 20;
$counter = 1;
while ($counter lt 20)
{
  # This next line prints the number
  print "$control\t";
  $counter=$counter+2;
}
```

1
2
3
4

Question 3. Total 40 marks.

(a) Indicate the values in each of the variables **$a**, **$b** and **$c** after this program finishes:

3 x 10 marks

```
#!/usr/bin/perl
$n = 2;
$a = $n * 10;
while ($n <= 8)
{
  $c = $n * 2;
  $n++;
}
$b = $a + $c;
$c = $n * 2;
$t = $b;
$b = $a;
$a = $t;

print "$a, $b, $c\n";
```

Variable	*Value*
$a	
$b	
$c	

(b) 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\n",
35,75,101,101,112,32,73,116,32,83,105,109,112,108,101,35;
```

Question 4. Total 40 marks.

To convert *miles* to *kilometers* - *divide* by *5* and *multiply* by *8*	k=(m/5)*8
To convert *kilometers* to *miles* - *divide* by *8* and *multiply* by *5*	m=(k/8)*5

Write a perl program to:

1) Present a simple menu to show conversion options.

2) Take all steps to perform the conversion requested.

Include 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											