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

(National Council for Vocational Awards)

Computer Programming
C20013 – Level 5

Theory Examination 2007

Duration: Two Hours

Please take the full duration to read and answer all questions.

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 4 errors that will stop it from compiling. List the errors.

20 marks

```
#!/usr/bin/perl
print "Please enter your first name: ";
$first = <STDIN>
chop $first;
print Now enter your last name: ";
$last = <STDIN>
chop last;
print "/n";
print "Formally, you are called: $last, $first.\n";
```

1	
2	
3	
4	

(b) What are **array** type variables used for in programming? ***10 marks***

(c) In the array **@people** what number would replace **x** to represent the first element or item in the array? ***10 marks***

@people[x]	**x = ?_____?**

Question 2. Total 40 marks.

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

(b) Write the general form of the **while** statement: ***10 marks***

(c) The following perl code will compile and run but will not generate the desired output. Why?

20 marks

```
#!/usr/bin/perl
# A sample program.
# This program should write out the letters Z..A
# of the alphabet, one on each line.
$startvar = 90;
$stopvar = 65;
$counter = $startvar;
while ($counter <= $stopvar)
{
  # This next line converts & prints the character
  printf ("%c\n", $counter);
  $counter--;
}
```

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
$num = 0;
$a = 2 * 2 * 2 * 2 * 2 * 2 * 2 * 2;
while ($num <= 9)
{
  $num=$num+1;
}
$b = $num/2;
$c = $a * 2;

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\n",
85,112,32,70,117,98,97,114,115,116,111,119,110,33);
```

Question 4. Total 40 marks.

(a) Write a perl loop to write out every number between 1 and 50 and then write out the average and total of all the numbers which have been displayed.

30 marks

(b) Write a **while** loop that repeatedly asks for numbers and stops when it receives the value **0** – if you desire, you may have the loop perform any other actions that you wish.

10 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											