



(National Council for Vocational Awards)



Computer Programming C20013

Sample Theory Examination 2007

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 sample 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
$myname = "John"
$n = 1;
while ($n <= 4)
{
    print ("$myname, $n\n");
    $n=$n++1;
}
```

1	
2	
3	
4	

(b) What are variables used for?

10 marks

--

(c) What is the difference between a variable with a name starting with \$ and a variable starting with @?

10 marks

--

Question 2. Total 40 marks.

(b) 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 a..z
# of the alphabet, one on each line.
$startvar = 97;
$stopvar = 122;
$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:

30 marks

```
#!/usr/bin/perl
$num = 0;
$a = $num * 2;
while ($num <= 9)
{
    $num=$num+1;
}
$b = 12;
$c = $num * 2;

print ("a, b, c\n");
```

<i>Variable</i>	<i>Value</i>
\$a	
\$b	
\$c	

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

10 marks

```
#!/usr/bin/perl
printf ("%c%c%c%c%c\n%c%c%c%c%c%c\n",
68,111,110,39,116,80,97,110,105,99,33);
```

Question 4. Total 40 marks.

(a) Write a perl loop to write out every second number between 1 and 30 and then write out the the average of the numbers which have been printed in.

30 marks

(b) In many languages the control variable for a **while** loop should appear in a program not less than four times. In perl, only 3 occurrences are required. List those times.

10 marks

1	
2	
3	

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											

