

## (National Council for Vocational Awards)



## **Computer Programming C20013**

**Theory Examination 2003** 

## **Duration: Two Hours**

## **INSTRUCTIONS TO CANDIDATES:**

Answer any three questions

All questions carry equal marks

Return this exam/answer paper when finished

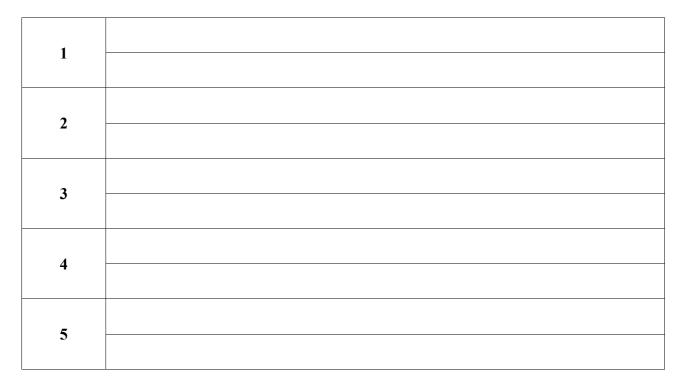
Extra paper is available from the exam supervisor if required

This written exam counts as 40% of the total module

NAME (PRINT):	
EXAM NUMBER	

(a) This program contains 5 errors that will stop it from compiling. List the errors. 20 marks

```
#include <stdio.H>
main ()
{
  int looper;
  printf ("These are the first 10 squared numbers:\n);
  loopy = 1;
  while (looper <= 10)
  {
    printf ("%d\n", looper * looper)
    looper++;
  }
}</pre>
```



(	(b) What is a variable used for? 10 marks	

(c) What is the difference between a character and a string variable? *10 marks* 

Question 2. Total 40 marks.	
(a) What type of numeric data should not be stored in the <b>int</b> data type? What data tyused instead? <i>10 marks</i>	ype should be
(b) Write the general form of the <b>if</b> statement: <i>10 marks</i>	
(c) Write a C program containing a loop that writes out the odd numbers between 9 and	d 99 <b>20 mark</b> .

(a) Draw a diagram to represent the state of the numbers array after this program finishes. 30 marks

```
#include <stdio.h>
main ()
{
  int numbers[9], loopvar;
  loopvar = 0;
  while (loopvar <= 9)
  {
    numbers[loopvar] = 100 - (loopvar * loopvar);
    if (loopvar == 5)
      {
        numbers[loopvar] = 0;
      }
      loopvar++;
    }
}</pre>
```

Draw your diagram here:

(b) What numeric screen output is generated by this program line: 10 marks

```
printf ("%d\n",'H'+'w');
```

Ouestion	1	Total 10	144 014/20
Ouestion	4.	10tai 40	marks.

(a) Writ the cont 30 mark	ents	C loop to of the arra	read in an ay in rever	array of 2 se order.	20 numerio Also write	e variables e out the to	; then write otal sum of	e another lo	oop to writ ues in the a	e out array.
		rol variab 10 marks		aile loop	should ap	pear in a p	orogram no	t less than	four times	. List
	1 2									
	3 4									

Figure 1. The ASCII table.

				032	SP	033	!	034	"	035	#
036	\$	37	.00%	038	&	039	1	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	А
066	В	067	С	068	D	069	E	070	F	071	G
072	Н	073	I	074	J	075	K	076	L	077	М
078	N	079	0	080	Р	081	Q	082	R	083	S
084	Т	085	U	086	V	087	W	088	Χ	089	Y
090	Z	091	[	092	\	093	]	094	^	095	_
096	`	097	а	098	b	099	С	100	d	101	е
102	f	103	g	104	h	105	i	106	j	107	k
108	1	109	m	110	n	111	0	112	р	113	q
114	r	115	S	116	t	117	u	118	V	119	W
120	Х	121	У	122	Z	123	{	124		125	}
126	~	127									

Printable alphanumeric and punctuation characters used in normal document text

Rough Work Page		

Rough Work Page	