GYALPOZHING COLLEGE

OF

INFORMATION TECHNOLOGY

ASSIGNMENT_01

C-PROGRAMMING- ITP203

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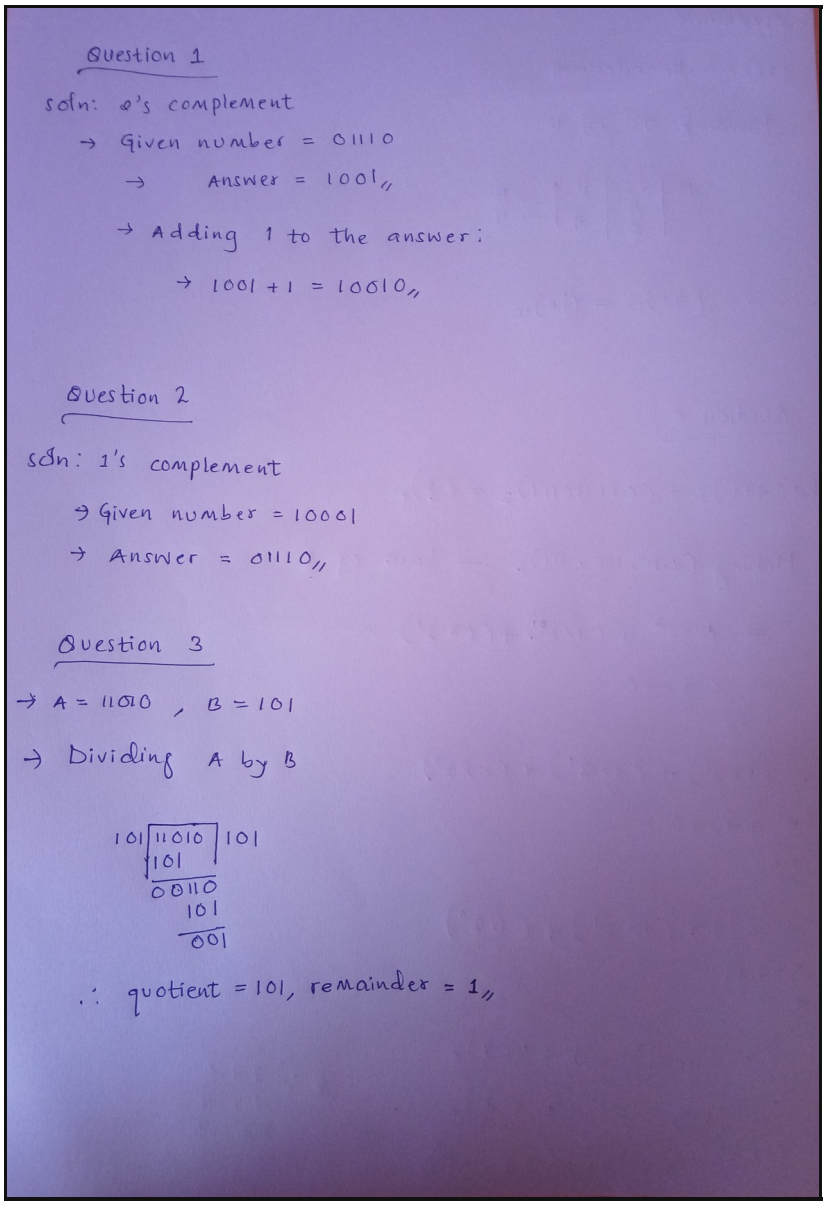
Group B

Question 1 to 3



Question 1

soln: 2's complement

→ Given number = 01110

→ Answer = 1001//

→ Adding 1 to the answer:

→ 1001 + 1 = 10010//

Question 2

soln: 1's complement

→ Given number = 10001

→ Answer = 01110//

Question 3

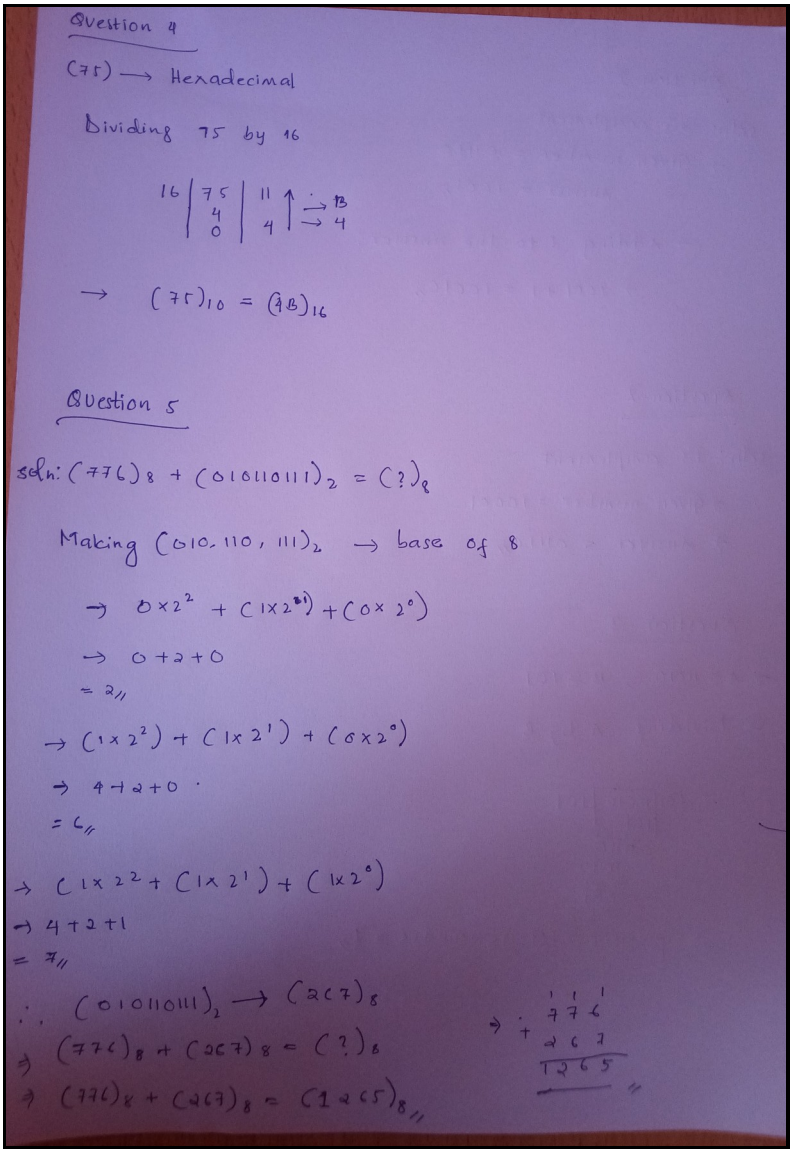
→ A = 11010 , B = 101

→ Dividing A by B

```
101 | 11010 | 101
    | 101   |
    -------
      00110
        101
        ---
        001
```

∴ quotient = 101, remainder = 1//

Question 4 and 5



Question 4

(75) ⟶ Hexadecimal

Dividing 75 by 16

16 | 75 | 11 ↑ → B
4 | 4 → 4
0

→ $(75)_{10} = (4B)_{16}$

Question 5

soln: $(776)_8 + (010110111)_2 = (?)_8$

Making $(010, 110, 111)_2$ → base of 8

→ $0 \times 2^2 + (1 \times 2^{81}) + (0 \times 2^0)$

→ 0 + 2 + 0

= 2//

→ $(1 \times 2^2) + (1 \times 2^1) + (0 \times 2^0)$

→ 4 + 2 + 0

= 6//

→ $(1 \times 2^2 + (1 \times 2^1) + (1 \times 2^0)$

→ 4 + 2 + 1

= 7//

∴ $(010110111)_2 \longrightarrow (267)_8$

⇒ $(776)_8 + (267)_8 = (?)_8$

⇒ $(776)_8 + (267)_8 = (1265)_8$//

⇒
1 1 1
7 7 6
+ 2 6 7
1 2 6 5
//

Question 7

Source code:

```
#include <stdio.h>
int main() {
    int x = 0, y = 1, nextTerm = 0, num;
    printf("Enter a positive number: ");
    scanf("%d", &num);

    // displays the first two terms which is always 0 and 1

    printf("Fibonacci Series are: %d,%d,", x, y);
    nextTerm = x + y;

    while (nextTerm <= num) {
        printf("%d, ", nextTerm);
        x = y;
        y = nextTerm;
        nextTerm = x + y;
    }

    return 0;
}
```

Output:

```
Enter a positive number: 8
Fibonacci Series are: 0,1,1, 2, 3, 5, 8,
```

Question 8

Source code:

```
#include <stdio.h>
int main()
{
	int num,x,reminder,result=0;
	printf("Enter three integer you want to check: ");
	scanf("%d",&num);

	x = num;

	do{
		reminder = x%10;
		result += reminder*reminder*reminder;
		x/=10;
	}
	while(x!=0);
	{
		if (result=num)
		{
			printf("%d is an Armstrong number \n", num);
		}
		else
		{
			printf("%d is not an Armstrong number \n", num);

		}
	}
}
```

Output:

```
Enter three integer you want to check: 155
155 is an Armstrong number
```