

Name: \_\_\_\_\_

Points:.....

Neptun Code: \_ \_ \_ \_ \_

Grade:.....

I + C Technologies  
Second Exam, 1<sup>st</sup> Semester, 2016/2017  
9/12/2016, ST103

1) Fill the missing parts of the following table! (4)

Binary	Decimal	Hexadecimal
1001 1011		
	1685	
		4138
	0,00390625	

2) Convert the following numbers: (4)

a) -756 to 2's complement code (k=15)!

Solution in **HEXA** numeral system: \_\_\_\_\_

b) 0010 1101 to decimal from 2's complement code!

Solution in **decimal** numeral system: \_\_\_\_\_

3) Convert the following numbers to/from short floating point format! (6)

a) -635,015625

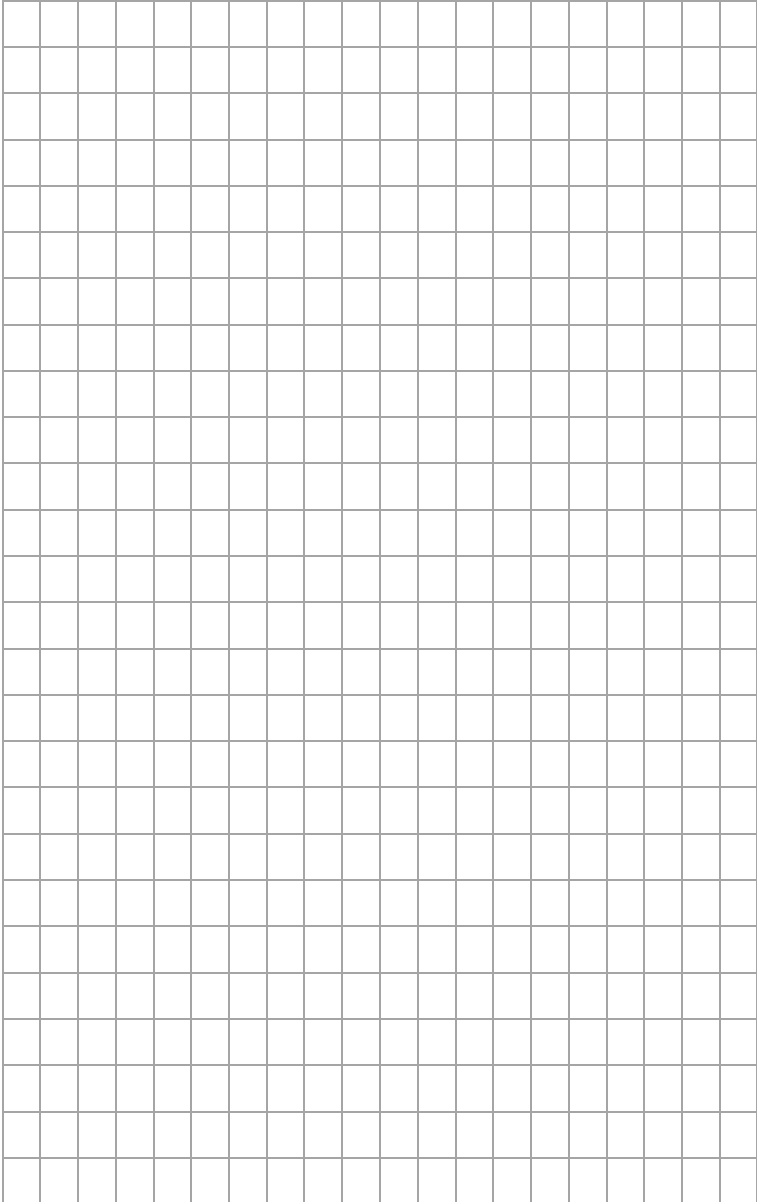
Solution in **HEXA** numeral system: \_\_\_\_\_

b) C4F9A000

Solution in **decimal** numeral system: \_\_\_\_\_

4) Multiply 74 by 54 with the method of rightward shifting of the partial sum!

(3)



Solution in **HEXA** numeral system: \_\_\_\_\_

5) The transmitted message is given in the following form: 2F80E1. The transmission is used the next CRC polynomial:  $x^{16}+x^{15}+x^2+1$ . Check, that the transmission was successful or not!

(3)



Result of the division: \_\_\_\_\_

The transmission was successful? \_\_\_\_\_

6) What does it mean, “Embedded System”? Give the general architecture of an MCU! (2)

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0-10: 1	11-13: 2	14-16: 3	17-19: 4	20-22: 5
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