



Questions	02
Pages	03

Trincomalee Campus, Eastern University, Sri Lanka

Faculty of Applied Science

Department of Computer Science

Bachelor of Computer Science (2017/2018)

Year II Semester I Examination (Jan/Dec 2021/2022)

CO 2114 Practical work on CO 2124

Answer All Questions

Time Allowed: Two (02) hours

- Q1.** Create an HTML form as bellow and validate this using the following validation rule, use PHP for this purpose.

* required field

Name: *

E-mail: *

Website:

Comment:

Gender: ☐ Female ☐ Male ☐ Other *

Field	Validation Rules
Name	Required and must only contain letters and whitespace
E-mail	Required and must contain a valid email address (with @ and .)
Website	Optional. If present, it must contain a valid URL (Uniform Resource Locator)
Comment	Optional. Multi-line input field (text area)
Gender	Required. Must select one

[40 Marks]

Q2. Write a PHP Code to output decimal equivalent of a Roman number name your program as roman.php.

You must not allow any unwanted characters except only roman letters.

You should allow both upper case letters for Roman numbers.

You may use the following data and the brief algorithm given below.

DATA NEEDED

Roman Number	Decimal equivalent
I	1
II	2
III	3
IV	4
V	5
VI	6
VII	7
VIII	8
IX	9
X	10
XL	40
L	50
XC	90
C	100
CD	400
D	500
CM	900
M	1000

Note 01: $M > D > C > L > X > I$

Note 02: In general decimal equivalent of a Roman letter is added from left to right. Whenever a higher valued number is succeeded then double of the previous number must be deducted from the current decimal value.

Example:

$$MCMXCIX = 1000 + 100 + 1000 + (-2 \times 100) + 10 + 100 + (-2 \times 10) + 1 + 10 + (-2 \times 1) = 1999$$

ALGORITHM for conversion only:

// Assume that the ROMAN is a String of Roman numbers.

DECIMAL = decimal equivalent of ROMAN [0];

I = 1;

While (Roman [I] != Null character)

{

DECIMAL = DECIMAL + decimal equivalent of ROMAN [I];

If (ROMAN [I] > ROMAN [I-1]) then

DECIMAL = DECIMAL - 2 x decimal equivalent of ROMAN [I-1];

I ++ ;

}

[60 Marks]