M.E (WREE)-SEM I

Subject: Elective I (Computational Methods, Cyber Security and Foreign Language-I)

Max marks: 50.   Date:

Note:

Solve section A, Section B and Section C in separate answer books.

Solve any two questions from Q.1, Q.2 and Q.3.

Q.4 and Q.5 are compulsory

Solve any five questions from Q.6 to Q.13

Q.14, Q.15 and Q.16 are compulsory.

SECTION A

Q.1. Using Newton-Raphson's Method solve the following equation   10 marks
$$f(x) = -x^2 + 1.8x + 2.5 \quad \text{taking } x_0 = 5.$$

Q.2 Solve the following equations by Gauss elimination method.

$8x_1 + 2x_2 - 2x_3 = -2$

$10x_1 + 2x_2 + 4x_3 = 4$

$12x_1 + 2x_2 + 2x_3 = 6$

Q.3 Solve the following system of equations using matrix inversion.

$10x_1 + 2x_2 - x_3 = 27$

$-3x_1 - 6x_2 + 2x_3 = -61.5$

$x_1 + x_2 + 5x_3 = -21.5$

Q.4 Calculate the first Four Moments about the mean of the given distribution. Also find β_1, β_2.   6 marks

x	2.0	2.5	3.0	3.5	4.0	4.5	5.0
f	4	36	60	90	70	40	10

Q.5 An unbiased coin is thrown 10 times. Find the probability of getting exactly 6 heads and at   4 marks
least 6 heads.

OR

Q.5 A manufacturer of cotter pins knows that 2% of his product is defective. If he sells cotter pins in boxes of 100 pins and guarantees that not more than 5 pins will be defective in a box, find the approximate probability that a box will fail to meet the guaranteed quality.   4 marks

SECTION B

Q.6. Write a short not on Computer Forensic.   4 marks

Q.7 Explain Digital Signature and Digital Certificates.   4 marks

Q.8 What is a Trojan? Give an example of real-world banking Trojan.   4 marks

Q.9 What is security? Why do we need security?   4 marks

Q.10 Write a short note on disaster recovery.   4 marks

Q.11 Explain various types of Payment Systems.   4 marks

Q.12 Explain with the help of diagram steps in Secure Socket Layer (SSL).   4 marks

Q.13 Write a short note on reasons for a Forensic Analysis.   4 marks

SECTION C

Q.14 Répondez aux questions :   5 marks

    a. Comment tu t'appelles ? ....

    b. Quel sport aimez-vous ? ....

    c. Quelles langues parlez-vous ? ....

    d. Vous avez quel âge ? ....

    e. Où habitez-vous ? ....

Q.15. Quelle heure est-il ?   3 marks

a. 3h30 - ....

b. 1h00- ....

c. 22h45- ....

Q.16. Traduisez en français :   2 marks

a. We like to watch french films. ....

b. I do not have a book. ....