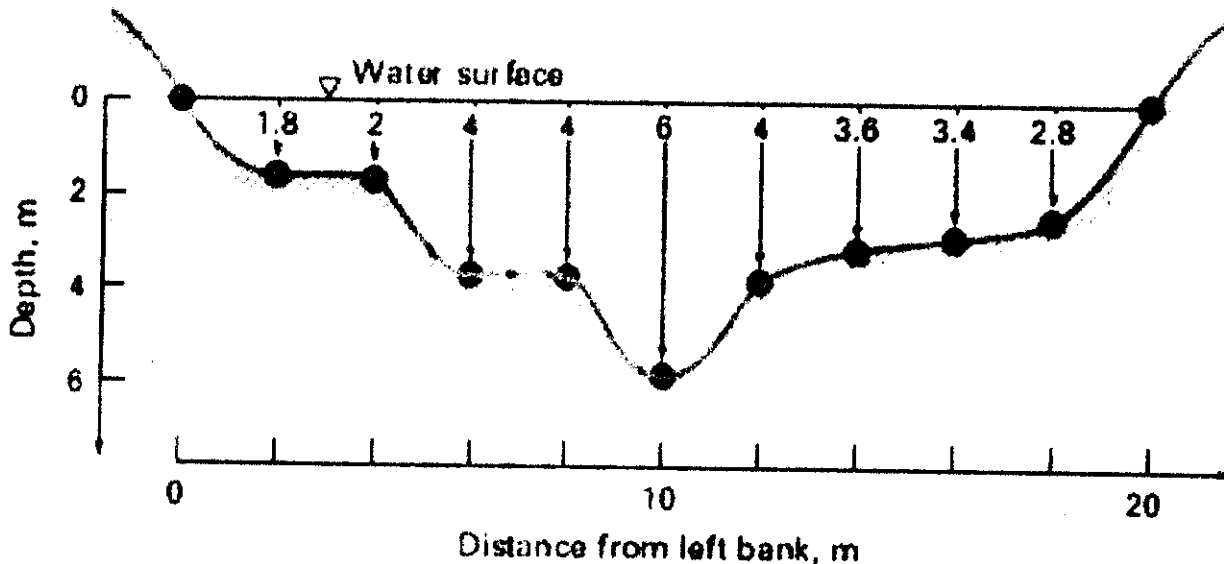




Question 1 (15 marks)



The figure shows a river's water section

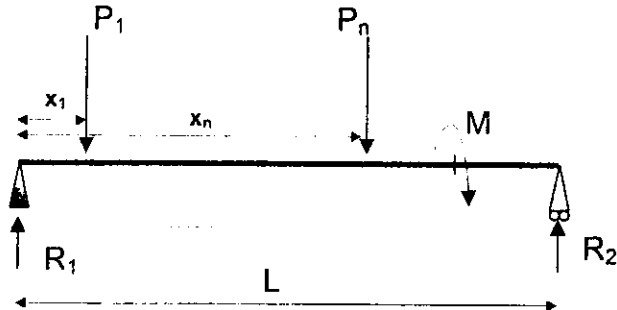
Write a Fortran computer program, which computes the water cross section area of the river using trapezoidal rule.

- The program should read any desired values for the water depths, water surface breadth "b" and Δx .
- Using the data of the above figure, to show how to input data to program.

Question 2 (15 marks)

Given a matrix C(100,200), it is required to write a Fortran program that reads the matrix row by row, then scans the matrix C to count and print the total number of negative elements "NN" and positive elements "NP", on a file "output.lst".

Question 3 (15 marks)



Write a FORTRAN program to calculate the reactions R_1 and R_2 of a simple beam subjected to the shown concentrated vertical loads P_n and a moment M . Assuming that number of concentrated loads $n \leq 10$

Question 4 (15 marks)

Write a Fortran program to print the grade of students knowing their marks, assuming the following relationships:

Mark	Grade
MARK \geq 80	A
80 > MARK \geq 70	B
70 > MARK \geq 60	C
60 > MARK \geq 50	D
50 > MARK \geq 40	E
MARK < 40	F

With my best wishes.

This exam measures the following ILOs												
Question Number	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	a1,a2 ,a5	a1,a2, a5	a1,a2, a5	a1,a2 ,a5	b1,b8	b1,b8	b1,b8	b1,b8	c1,c7	c1,c7	c1,c7	c1,c7
Skills	Knowledge & Understanding Skills				Intellectual Skills				Professional Skills			