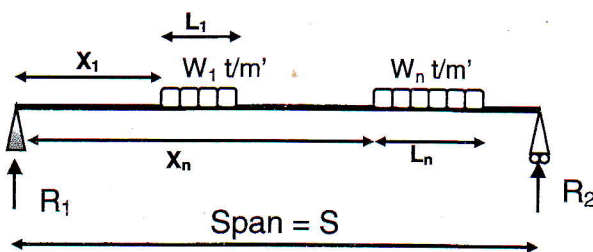## Answer the following four questions (two pages)

Question 1   (20 marks)

Write a FORTRAN program to calculate the reactions R_1 and R_2 of a simple beam subjected to the shown distributed loads.

Assuming that number of distributed loads $n \leq 5$

Question 2   (10 marks)

Write a Fortran program that computes the following series for any odd value of n.

$$Y = 1 + \frac{1}{3} + \frac{1}{5} + \frac{1}{7} + \frac{1}{9} + \frac{1}{11} + \frac{1}{13} \cdots \cdots \cdots \cdots + \frac{1}{n}$$

See next page ....

Question 3   (15 marks)

Given a matrix B(200,200), it is required to write a Fortran program that reads the matrix row by row, then scans the matrix B to count and print the total number of zero elements, on the screen.

Question 4   (15 marks)

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

Mark	Grade
MARK ≥ 80	A
80> MARK ≥ 70	B
70> MARK ≥ 60	C
60> MARK ≥ 50	D
50> MARK ≥ 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
Skills	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
	Knowledge &Understanding Skills				Intellectual Skills				Professional Skills			