Time allowed: 2 Hours
Max Marks: 50

Roll No: _____

Instruction: Students are required to write models, process, results and interpretations in answer booklet. They are also advised to submit soft copy to the invigilators.

Attempt any two from Section A and each question carries 15 marks. Question number 4 from Section B is compulsory with 20 marks

Section A
Based on Data1.xls, answer question 1 to 4 (CILO 1 and 2)

1. Develop the Pairwise Comparison matrix and find the weight using Eigen Vector method.
   Find the cell with maximum error if any.
2. Write the LP Model to minimize the error and weightage for the matrix developed in question 1.
3. A new author sets three criteria for selecting a publisher for a MCDM book: Brand (B), Royalty Percentage (R) and Advance Payment (P). All these criteria are inter dependent. Two publishers H and X have expressed their interest. Using the following comparison matrices, rank the publishers.

Table1: Comparison of criteria with respect to goal

	B	R	P
B	1	1	1/4
R		1	1/5
P			1

Table 2: Comparison of Criteria with respect to criteria

R and P with respect to B				R and B with respect to P				P and B with respect to R		
	R	P			R	B			P	B
R	1	1/2		R	1	1		P	1	2
P		1		B		1		B		1

Table3: Comparison of alternatives with criteria

with respect to B				with respect to P				with respect to R		
	H	X			H	X			H	X
H	1	2		H	1	3		H	1	1/2
X		1		X		1		X		1

Section B

4. What is the necessity to get weights of a pair wise comparison matrix using DEAHP? Find the weights of publisher H and X using DEAHP by considering Table 1 and Table 3, question number 3 of section A.