14.33 Solution

a) Let the electronic product be digital notepad for which decision analysis is to be made for buying.

Let Origin E ink, Remarkable and Sony digital paper be three models with following criterion

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Origin E-ink** | **Remarkable** | **Sony digital paper** |
| **Price** | $239 | $299 | $819 |
| **Quality** | Good | Good | Extremely good |
| **Warranty** | 24 months | 36 months | 24 months |
| **Features** | little flexible | Very flexible | Flexible |
| **Brand** | Not popular | Popular | Little popular |

From multi criterion scoring from the data sheet of ‘14.33 Problem.xlsx’ the notepad Remarkable can be selected. The radar charts for raw scores and weighted scores are in the appropriate sheets.

b) The pairwise comparison and normalized matrices for all selection criterion are created and the consistency index is calculated from the formula



and consistency ratio = Consistency index/Random index

Where Random index is taken from Saaty’s table for n=5 as there are 5 criteria

To check the process by AHP, the consistency ration should be <0.1 according to Saaty.

All the criterion give the consistency ration < 0.1 (from the excel sheets)

From the multicriterion weighted sheet, model Origin E ink is to be chosen from AHP model; which satisfies all the different criterion.