1. The MIS Department is developing a computer lab to support advanced applications. The planning committee has focused on three main criteria in their choice of PC vendors. These criteria are price, speed and reputation of the vendor. Reputation involves the likelihood of staying in business, telephone support and favorable reviews in computer magazines. Because of a limited budget the price criterion is strongly preferred to speed and moderately preferred to reputation. Reputation is equally to moderately preferred to speed. The committee has narrowed the choices to three vendors, A, B and C. The following pair wise comparison matrices were developed among the vendors with respect to the three criteria.

**PRICE**

|  |  |  |  |
| --- | --- | --- | --- |
|  | A | B | C |
| A | 1 | 3 | 2 |
| B | 1/3 | 1 | 0.5 |
| C | 1/2 | 2 | 1 |

SPEED

|  |  |  |  |
| --- | --- | --- | --- |
|  | A | B | C |
| A | 1 | 0.5 | 1 |
| B | 2 | 1 | 2 |
| C | 1 | 0.5 | 1 |

REPUTATION

|  |  |  |  |
| --- | --- | --- | --- |
|  | A | B | C |
| A | 1 | 0.5 | 0.3333 |
| B | 2 | 1 | 0.5 |
| C | 3 | 2 | 1 |

i) Construct the pair wise comparison matrix for the three criteria.

ii) Calculate the priorities and consistency ratio for each of the four pair wise comparison matrices.

iii) Determine the overall priorities for each of the three vendors and declare a winner.