The following mentioned steps were used to find type 1 multiplier or inverse matrix :-

1. I’ve roughly copied I-O table as RAW from ‘SUT and IO 2020 En.xlsx’ to form Leontief matrix.
2. Then, formed technological matrix A by dividing each cell to its respective industry’s output.
3. For example, 26654582.9131924 / 142757098.18466 = 0.186712838 by formula =B1/$AJ$1.
4. Later, I’ve created an Identity matrix using formula =MUNIT(20) with dimensions of 20 X 20.
5. Then, I’ve subtracted technological matrix from identity matrix such that in order to get I-A.
6. Lastly, I’ve formed an inverse of I-A matrix by using formula =MINVERSE(B76:U95) ie. (I-A)-1

The following mentioned steps were used to find type 2 multiplier or inverse matrix :-

1. I’ve roughly copied I-O table as RAW from ‘SUT and IO 2020 En.xlsx’ to form Leontief matrix.
2. Then, formed technological matrix A by dividing each cell to its respective industry’s output.
3. For example, 26654582.9131924 / 142757098.18466 = 0.186712838 by formula =B1/$AJ$1.
4. I’ve added “compensation of employees” & “final consumption expenditure by households”
5. They both are being highlighted by colours blue and green respectively in worksheet Type 2.
6. Calculated last row as ‘compensation of employees’ divided by the total output of industry.
7. Calculated last column as amount per unit of total households income from all the sources.
8. Last element set to zero as household expenditure per unit of exogenous household income.
9. Later, I’ve created an Identity matrix using formula =MUNIT(21) with dimensions of 21 X 21.
10. Then, I’ve subtracted technological matrix from identity matrix such that in order to get I-A.
11. Lastly, I’ve formed an inverse of I-A matrix by using formula =MINVERSE(B79:V99) ie. (I-A)-1

* The type I inverse matrix shows how much of each industry’s output is needed, in terms of direct and indirect requirements to produce one unit of a given industry’s output. It is calculated using the formula: L = (I-A)-1 where L is Leontief Inverse matrix, I is Identity matrix & A is technology matrix.
* The type II inverse matrix also shows the induced requirements (in terms of industry’s output) of a production of one unit of a given industry’s output. Its purpose is to take into account, besides the direct and indirect requirements included in the type I inverse matrix, the flows of money in and out of households and the effect of these flows on industries. The type II inverse matrix is derived in the same way as the type I inverse matrix. But since it is necessary to include households in the analysis we treat them as an additional industry by adding an extra row and column into the Direct Requirements matrix for “compensation of employees” and “final consumption expenditure by households” coefficients respectively.