**Qn. 01:** Calculate chain indices and fixed base indices with year 2000 as base from the following data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 2000 | 2001 | 2002 | 2003 | 2004 |
| Price of item (Rs. per Kg.) | 20 | 25 | 30 | 45 | 63 |

**Ans 01:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Price of Rice**  **(Rs. per Kg.)** | **Fixed base Index** | **Link Relatives** | **Chain base Index** |
| **2000** | **20** | = 1 | --- | = 1 |
| **2001** | **25** |  |  |  |
| **2002** | **30** |  | 0 | = 1.50 |
| **2003** | **45** |  |  | = 2.25 |
| **2004** | **63** |  |  |  |

**Qn. 02:** Calculate chain indices and fixed base indices using Laspeyres’ formula with year 2010 as base from the following data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2010** | | **2011** | |
| **Commodity** | **Price (Rs.)** | **Quantity** | **Price (Rs.)** | **Quantity** |
| **A** | 25 | 50 | 30 | 55 |
| **B** | 20 | 30 | 20 | 35 |
| **C** | 55 | 45 | 60 | 40 |
| **D** | 20 | 45 | 25 | 40 |
| **E** | 20 | 15 | 25 | 20 |
|  | **2012** | | **2013** | |
| **Commodity** | **Price (Rs.)** | **Quantity** | **Price (Rs.)** | **Quantity** |
| **A** | 35 | 55 | 40 | 50 |
| **B** | 30 | 35 | 40 | 30 |
| **C** | 60 | 40 | 65 | 35 |
| **D** | 30 | 35 | 30 | 45 |
| **E** | 30 | 20 | 40 | 15 |

**Ans. 02**

**Calculation of Cross Products**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Commodity** |  |  |  |  |  |  |  |  |
| **A** | 1250 | 1500 | 1750 | 2000 | 1650 | 1925 | 2200 | 1925 |
| **B** | 600 | 600 | 900 | 1200 | 700 | 1050 | 1400 | 1050 |
| **C** | 2475 | 2700 | 2700 | 2925 | 2400 | 2400 | 2600 | 2400 |
| **D** | 900 | 1125 | 1350 | 1350 | 1000 | 1200 | 1050 | 1050 |
| **E** | 300 | 375 | 450 | 600 | 500 | 600 | 800 | 600 |
| **Sum** | **5525** | **6300** | **7150** | **8075** | **6250** | **7175** | **8050** | **7025** |

**Fixed base and Chain base Indices (Ratios)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Fixed base Index** | **Link Relatives** | **Chain base Index** |
| **2010**  **(0)** | = 1 | --- | = 1 |
| **2011**  **(1)** |  |  |  |
| **2012**  **(2)** |  |  | = 1.3091 |
| **2013**  **(3)** |  |  | = 1.5001 |

**Fixed base and Chain base Indices (Percentages)**

|  |  |  |
| --- | --- | --- |
| **Year** | **Fixed base Index** | **Chain base Index** |
| **2010 (0)** | = 100 | = 100 |
| **2011 (1)** |  |  |
| **2012 (2)** |  |  |
| **2013 (3)** |  |  |