

(iii) Chain Based Index

<u>Year</u>	<u>Turnover</u>	<u>Chain Based Index</u>
1	771	N/A
2	754	$\frac{754}{771} \times 100 = 97.8$
3	798	$\frac{798}{754} \times 100 = 105.8$
4	845	$\frac{845}{798} \times 100 = 105.9$
5	890	$\frac{890}{845} \times 100 = 105.3$

Q3

(a) Fixed Base Index

<u>Year</u>	<u>Turnover</u> ($Y_1 = 100$)	<u>Fixed Base Index</u>
1	63	100
2	65	$\frac{65}{63} \times 100 = 103.2$
3	68	$\frac{68}{63} \times 100 = 107.9$
4	70	$\frac{70}{63} \times 100 = 111.1$

(b) Chain Based Index

<u>Year</u>	<u>Turnover</u>	<u>Chain Based Index</u>
1	63	N/A
2	65	$\frac{65}{63} \times 100 = 103.2$
3	68	$\frac{68}{65} \times 100 = 104.6$
4	70	$\frac{70}{68} \times 100 = 102.9$

(c) (i) Laspeyre Index

	<u>WT(Y1=100)</u>		1		2		3	
apples	19	x	0.7	13.3	0.68	12.92	0.72	13.68
bananas	20	x	0.34	6.8	0.37	7.4	0.42	8.4
grapes	10	x	0.5	5	0.55	5.5	0.61	6.1
oranges	14	x	0.37	5.18	0.53	7.42	0.57	7.98
				<u>30.28</u>		<u>33.3</u>		<u>36.16</u>

$$\text{Year 1} = 100$$

$$\text{Year 2} = \frac{33.3}{30.28} \times 100 = 109.97$$

$$\text{Year 3} = \frac{36.16}{30.28} \times 100 = 119.4$$

(ii) Paasche Index for Year 3

	<u>WT(Y3)</u>		<u>Y3</u>		<u>Y1</u>	
apples	20	x	0.72	14.4	0.7	14
bananas	27	x	0.42	11.34	0.34	9.18
grapes	12	x	0.61	7.32	0.5	6
oranges	12	x	0.57	6.84	0.37	4.44
			<u>39.9</u>			<u>33.62</u>

$$\text{Year 3} = \frac{39.9}{33.62} \times 100 = 118.7$$

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