

Q1

Mar	Apr	May	Jun	Jul	Aug	Sep
216.9	225.1	234.6	237.2	235.2	230.1	224.4

a)

Fixed base relatives

100	103.7805	108.1604	109.3592	108.4371	106.0858	103.4578
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Chain base relatives

N.A	103.7805	104.2203	101.1083	99.15683	97.83163	97.52282
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Q2

	Commodit	Weight	Price in ye	Price in ye	$p_1/p_0 \cdot 100$	$W \cdot P_1$	$W \cdot P_0$	$W \cdot P_1$
	W	5	215	210	97.67442	488.3721	1075	1050
	X	12	250	275	110	1320	3000	3300
	Y	2	1100	1300	118.1818	236.3636	2200	2600
	Z	8	950	950	100	800	7600	7600
SUM		27	2515	2735	425.8562	2844.736	13875	14550

- (a) 118.1818
- (b) 108.7475
- (c) 106.4641
- (d) 105.3606
- (e) 104.8649

	Average Price	Production (in thousands units)				
Product	2007	2007	2008	2009	2010	
A	2	62	65	66	90	
B	3	138	120	110	80	
C	0.5	500	540	580	800	
D	4.5	10	10	10	10	
SUM		2717	2743			

a) 106.4516129

b) 100.9569378

c)

Price, W	2007	2009	2010	Q1/Q0*10	W*Q1/Q0	WQ0
2	62	66	90	106.4516	212.9032	124
3	138	110	80	79.71014	239.1304	414
0.5	500	580	800	116	58	250
4.5	10	10	10	100	450	45
SUM	10			402.1618	960.0337	833

Answer 100.5404

d) 96.00336606

e) 103.8415366

WQ1

180
240
400
45
865

Category	Food	Transport	Housing	Durable House Good	Services	Clothing	
Price Relat	103.4	112.5	111.2	115.3	100.6	107.2	
Weight	25	12	11	6	8	8	70
PR*W	2585	1350	1223.2	691.8	804.8	857.6	7512.4
Price of Living Index		107.32					

Q5	Item	Price in 2005	Quantity in 2005	
	A		7	61
	B		5	81
TOTAL			12	142
(a)	114.2857143			
(b)	87.65432099			
(c)	144.2622951			
(d)	126.8028846			
(e)	124.4966443			
(f)	107.4519231			
(g)	105.4976303			
(h)	133.7740385			

Price in 2010	Quantity in 2010	P1/P0*100	Q1/Q0*100
8	77	114.2857143	126.2295082
7	71	1.4	87.65432099
15	148	115.6857143	213.8838292

P1Q1/P0Q0*100	P0Q0	P0Q1	P1Q0	
144.2622951		427	539	488
122.7160494		405	355	567
266.9783445		832	894	1055

P1Q1

616

497

1113

Q6. The following table lists the quantities and costs of materials of a company for two years.

Material	Quantity (tonnes)		Cost (RM'000)	
	Year1	Year2	Year1	Year2
A	175	201	15.4	18.3
B	32	46	12.7	14.9
C	48	43	27.6	24.9

Using the year 1 as the base year, calculate the

(a) price (cost) relative index for material A in year 2,

Answer 118.8312

(b) quantity relative index for material C in year 2,

Answer: 89.58333

(c) simple aggregate price and quantity indices for year 2,

Simple aggregate price indices: 104.3088

Simple aggregate quantity indices: 113.7255

(d) simple average of price and quantity relative indices for year 2,

Material	Quantity (tonnes)		Cost (RM'000)		p1/p0*100	q1/q0*100
	Year1	Year2	Year1	Year2		
A	175	201	15.4	18.3	118.8312	114.8571
B	32	46	12.7	14.9	117.3228	143.75
C	48	43	27.6	24.9	90.21739	89.58333

simple average of price index 108.7905

simple average of quantity relative index 116.0635

(e) Laspeyres, Paasche and Fisher's Ideal price indices for year 2,

Material	Quantity (tonnes)		Cost (RM'000)		q0p0	q0p1	q1p0	q1p1
	Year1	Year2	Year1	Year2				
A	175	201	15.4	18.3	2695	3202.5	3095.4	3678.3
B	32	46	12.7	14.9	406.4	476.8	584.2	685.4
C	48	43	27.6	24.9	<u>1324.8</u>	<u>1195.2</u>	<u>1186.8</u>	<u>1070.7</u>
					<u>4426.2</u>	<u>4874.5</u>	<u>4866.4</u>	<u>5434.4</u>
LPI:	110.1283							
PPI:	111.6719							
FIPI:	110.8974							

Laspeyres, Paasche and Fisher's Ideal quantity indices for year 2,

Material	Quantity (tonnes)		Cost (RM'000)		p0q0	p0q1	p1q0	p1q1
	Year1	Year2	Year1	Year2				
A	175	201	15.4	18.3	2695	3095.4	3202.5	3678.3
B	32	46	12.7	14.9	406.4	584.2	476.8	685.4

C	48	43	27.6	24.9	<u>1324.8</u>	1186.8	1195.2	<u>1070.7</u>
					<u>4426.2</u>	<u>4866.4</u>	<u>4874.5</u>	<u>5434.4</u>
LQI	109.9453							
PQI	111.4863							
FIQI	110.7131							

(g) value index for year 2.

VAL INDEX 122.778

Q7. The profits of two companies, A and B, expressed in terms of index numbers are given below.

Year	2004	2005	2006	2007	2008	2009	2010
CompanyA -	-		100	110.61	123.45	136.23	151.16
CompanyB	100	109.16	118.32	127.61	136.21	145.56	156.23
CompanyB	84.51657	92.25828	100	107.8516	106.7393	123.0223	132.0402

After changing base, we can see that the growth of profits is faster in company B than company A

Q8. In January 2009, a factory paid out a total of RM 64,000 to 120 employees on the payroll.
In July 2009, the factory had 30 more employees on the payroll and paid out RM 11,800 more than in January

(a) labour expenses index number (value relative) for July 2009,

118.4375

(b) employee index number (quantity relative) for July 2009.

125

Q9

Year	2004	2005	2006	2007	2008	2009	2010
Expenditure	166	220	360	528	664	763	912
Petrol and	111	147	182	211	228	251	260
Real expenses	149.5495	149.6599	197.8022	250.237	291.2281	303.9841	350.7692

y 2009. Using January 2009 as the base month, calculate the