

University of Colombo
Faculty of Arts
Bachelor of Arts Degree Examination (Special) - Fourth Year
Semester End Examination- Semester II - 2017/2018
DMG 4263: Business Demography

Answer three (03) questions only

Time: Two (02) hours

Calculators can be used

This paper contains five (05) questions and three (03) pages

1. Market (or industry) life cycles describe the evolution of the market. Explain with examples.

(25 Marks)

2. Following Table provides data on population and X phone subscriptions in District A and District B, respectively.

Age	District A				District B			
	Population in 2015	X Phone Subscriptions in 2015 (%)	Projected Population in 2025	Projected X phone subscriptions (%)	Population in 2015	X Phone Subscriptions in 2015 (%)	Projected Population in 2025	Projected X phone subscriptions (%)
Less than 25	229,505	3	217,000	2	57,442	3	76,000	2
25-34	97,209	29	99,200	15	27,731	29	34,200	15
35-44	70,750	39	68,200	18	24,512	39	38,000	18
45-54	58,095	20	68,200	27	22,532	20	38,000	27
55-64	57,520	7	68,200	23	40,359	7	64,600	23
65 and over	62,121	2	99,200	15	75,024	2	129,200	15
Total	575,200	100	620,000	100	247,600	100	380,000	100

- a) Use the data given in the above table and calculate Market Attractive Index for District A and District B.

(10 Marks)

- b) Perform a core-context analysis and show which will be the core in your analysis.

(15 Marks)

3. Following Table provides data on proportion of enterprises alive at the beginning of the age interval which die during the age interval in country Y in 2015.

Age	nq_x Proportion of enterprises alive at the beginning of the age interval which die during the age interval
0	0.15765
1	0.18514
2	0.16492
3	0.14647
4	0.13466
5	0.11738
6	0.11302
7	0.10318
8	0.09188
9	0.09153
10	1

Using the data given in the above table, construct a Business (Enterprise) Life Table and perform a life table analysis.

(25 Marks)

4. a) What is meant by a Trading Area of a business?

(05 Marks)

- b) Explain the meaning of "The fall-off in business with increasing distance from the epicentre (that is the location of the store, shop, or service station) may be represented by a negative (decay) exponential function".

(05 Marks)

- c) The negative exponential function is given below:

$$R1 = e^{-rd}$$

where

e is the natural logarithm system

d represents the distance in miles from the epicenter

r is the rate of 'decay' or fall off in the volume of business, measured in customers or sales dollars (or any other currency)

$R1$ represents the ratio by which the volume of business at d miles from epicenter is reduced from its theoretical ceiling of 1.0

Compute the size of $R1$ assuming rates (r) of decay of 0.15, 0.2, and 0.3 for each mile up to 6 miles and comment on your results.

(15 Marks)

5. Explain the following in brief
- a) Methods of measuring the characteristics of customers
 - b) The categories of business life cycle
 - c) Factors affecting business sites and sales forecasting
 - d) Socio-economic characteristics of business
 - e) The Contribution of Business Births and Deaths to Employment Growth

(5*5 Marks =25)