

University of Colombo

Faculty of Arts

Bachelor of Arts Degree Examination (Special) - Fourth Year

Semester End Examination- Semester 1 - 2018/2019

DMG 4168: Labour Force Projection Methods

Answer three (03) questions only

Time: Two (02) hours

Calculators can be used

This paper contains five (05) questions and two (02) pages

1. a) Briefly explain what factors determine labour supply in developing countries? (08 Marks)

b) Examine the differences between male labour-force participation & female labour-force participation in Sri Lanka and reasons for such differences (12 Marks)

2. a) What is meant by extrapolation method in projecting labour force? (05 Marks)

b) The following table provides the activity rates of female population for years 2013 and 2018 for the country A. Project activity rates for female population of that country for the year 2023 using cohort extrapolation method with the use of following correction coefficient equation:

$$\text{Equation (a): } \Delta_{t,t_1}^x = \left(\frac{a_t^x}{a_{t_0}^x} \right) \left(\frac{a_t^x \times u_t^x}{a_{t_0}^x \times u_{t_0}^x} \right)$$

Age group	Activity rates for females	
	2013	2018
15-19	46.5	42.1
20-24	62.3	66.2
25-29	50.4	52.1
30-34	47.6	49.2
35-39	52.3	54.3
40-44	55.1	53.1
45-49	43.1	46.2
50-54	45.2	48.1
55-59	47.1	52.1
60+	20.0	28.1

(10 Marks)

c) Comment on your results

(05 Marks)

3. a) Explain the data which need to calculate 'gross working life' and 'net working life' in a country.

(05 Marks)

- b) With the use of the data given in the following table, calculate gross working life and net working life for males in 2018 for country B.

(10 Marks)

Age group	Activity rates between ages x and x+n (%)	Survivors at exact age x (l_x)	Survivors between ages x and x+n (nL_x)
15-19	45	98,441	491,161
20-24	75	97,969	488,101
25-29	90	97,242	484,324
30-34	97	96,482	480,468
35-39	98	95,684	475,935
40-44	94	94,637	469,786
45-49	96	93,176	460,318
50-59	90	90,773	445,521
60-74	61	82,294	395,075

- c) By using examples drawn from the above exercise, (3.b) explain the validity of this method when studying dynamics of labour force participation in a country.

(05 Marks)

4. a) Explain the relationship between 'labour supply' and 'labour demand'

(05 Marks)

- b) Propose actions which can be taken to minimize the difference of labour supply and labour demand in Sri Lanka

(05 Marks)

- c) Discuss the recent dynamics of labour demand in Sri Lanka

(10 Marks)

5. Briefly explain the following relationships

- a) Underdevelopment and unemployment in Sri Lanka

- b) Age structural changes and changes in economically active population in a country

- c) Size of the labour market and socio-economic factors

- d) Labour replacement and labour demand

(05x4 = 20 Marks)