



MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

THIRD YEAR SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF ECONOMICS & FINANCE

BACHELOR OF ECONOMICS & STATISTICS

EAE 410: DEMOGRAPHIC ECONOMICS

DATE:

TIME:

INSTRUCTIONS:

- (i) Answer question one (Compulsory) and any other two questions
- (ii) Do not write on the question paper
- (iii) Show your working clearly

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Distinguish between the following demographic concepts:
 - (i) Demography and Demographics (2 marks)
 - (ii) Fertility and Reproduction (2 marks)
 - (iii) Marriage and Nuptiality (2 marks)
- b) (i) The total population aged 0-14 as enumerated in Kenya 1980 census was 5,404,291; those aged 65 years and over were 465,465 and those between 15 and 64 years was 3,766,556. Calculate the dependency ratio (3 marks)
- (ii) State four traditional sources of population statistics (4 marks)

- c) The following table shows demographic statistics of a certain country in a year; study it and answer questions that follows:

	Population		
Age group	Male	Female	Total No. of Births
15-19	411,381	410,920	56,403
20-24	334,705	378,689	97,166
25-29	348,866	377,535	93,415
30-34	302,073	297,211	57,694
35-39	256,454	236,022	34,478
40-44	196,729	190,591	13,078
45-49	167,982	148,746	9,004
50-54	147,735	143,904	4,546
55-59	96,717	80,870	1,200
60-64	98,455	90,731	0
64+	205,003	153,101	0

Note: 1/3 of children born were females

Required

- (i) Gross Reproduction Rate (6 marks)
- (ii) General Fertility Rate (4 marks)
- (iii) Draw a population pyramid based on absolute numbers from the above population structure and discuss its form (7 marks)

QUESTION TWO (20 MARKS)

- a) In 1960, the population of Zambia was recorded as 6,726,815. In 1970 the count indicated a population of 8,545,561. What is the rate of annual growth from 1960 to 1970? (4 marks)
- b) Explain positive effects of population growth on economic development of a developing country (10 marks)

c) Components of Population Growth is as given in the table below

Item	
Population 1 January 1970	10,554 (P_t)
During 1970	
Births	+456
Deaths	-215
Immigrants	+145
Emigrants	-40
Population 1 January 1971	10,900 (P_{t+1})

Calculate the rate of natural increase

(6 marks)

QUESTION THREE (20 MARKS)

a) A group of 200 subjects were followed for three years. Deaths occurred throughout the three years. Use a life table to show the chance of surviving at the end of the three years given that: Number at beginning of first year was 200 and deaths were 20. In the second year deaths were 30 and in the fourth year deaths were 40. Also calculate the cumulative probability of surviving. (5 marks)

b) You are given the below information concerning marriage in Kenya:

Age group	1 st Marriages	Population
-20	311233	32885000
20-24	346361	6875000
25-29	161086	6362000
30-34	61085	5443000
35-39	29653	4479000
40-44	16503	3590000
45+	25315	12735000

Calculate total first marriage rate

(5 marks)

c) Explain classical demographic transition model in low income countries (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain three methods of population projection (6 marks)
- b) Distinguish between historical calendar and cohort identification methods of measuring age. (4 marks)
- c) How long will it take for Kenya's population of 6.73 million, recorded in 1960, to double at 2.4 percent per annum? (3 marks)
- d) Mortality rates have declined considerably in developing countries in recent years, explain the reasons why? (7 marks)

QUESTION FIVE (20 MARKS)

- a) "Brain drain is becoming a serious problem in many developing countries" Discuss this statement by stating your understanding of brain drain, its causes and suggest measures to stop it. (10 marks)
- b) Explain two types of life tables (4 marks)
- c) Explain two methods of measuring age in Africa giving weaknesses of each method (6 marks)