UNIVERSITY OF SWAZILAND

DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING

FINAL EXAMINATION, MAY 2018

B.A., B.Ed., B.Sc., BASS, JMC3 (FT/PT)

TITLE OF PAPER: INTRODUCTION TO THE HUMAN ENVIRONEMNT

COURSE NUMBER: GEP112

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS: THIS PAPER IS DIVIDED INTO TWO SECTIONS

SECTION A: TECHNIQUES AND SKILLS

    1. ANSWER ALL QUESTIONS (COMPULSORY)
    2. THIS SECTION CARRIES 40 MARKS

SECTION B: SHORT ANSWERS / ESSAYS

    1. ANSWER ANY TWO QUESTIONS
    2. EACH QUESTION CARRIES 30 MARKS

SPECIAL REQUIREMENTS: Graph paper

THIS QUESTION PAPER SHOULD NOT BE OPENED UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR

**GEP112: INTRODUCTION TO THE HUMAN ENVIRONMENT – MAY 2018**

### SECTION A: TECHNIQUES AND SKILLS    (40 MARKS)

### COMPULSORY

**QUESTION 1**
   a)  Define the following terms
      i)   Independent variable    (1 mark)
      ii)  Sex ratio    (1 mark)
      iii) Optimum population    (1 mark)
      iv) Three-quarter rule    (1 mark)
      v)   Crude birth rate    (1 mark)

   b)
      i)       List any three factors which may cause population change.    (3 marks)
      ii)      Population change may be projected using the formula $N_t = N_0 e^{rt}$. Given that the population of Swaziland was about 1.2 million people in 2014 with a growth rate of 1.7%, estimate the population for year 2022 and 2030.    (4 marks)

   c)  Using an appropriate technique, plot the data given in Table 1 below.    (12 marks)
      Table 1: Yields of main crops produced by Swazi farmers between 1996 and 2000 in tones.

| YEAR | CROP (t) | | | | |
|------|-------|-------|------------|---------|------------|
|      | Maize | Beans | Groundnuts | Sorghum | Jugo beans |
| 1996 | 10 000 | 3 320 | 2 800 | 5 070 | 3 980 |
| 1997 | 10 800 | 3 590 | 3 000 | 5 240 | 3 040 |
| 1998 | 13 000 | 3 790 | 2 600 | 5 780 | 3 298 |
| 1999 | 12 500 | 3 970 | 3 200 | 6 808 | 3 440 |
| 2000 | 13 600 | 3 800 | 3 500 | 7 200 | 3  900 |

   d)  The labour force participation rate compares the employed population to the economically active population. Use Table 2 which shows data for Nigeria to calculate the age-sex labour force for males.    (6 marks)

Table 2:    Age-sex specific labour force participation rates for Nigeria, 2016

| Age | Population (mid-2014) | | In the labour force | | LFPR (%) |
|-----|-----------------------|-----------|----------------------|-----------|----------|
|     | Male | Female | Male | Female | Male |
| 15 – 19 | 993,992 | 984,382 | 756,799 | 787,592 | |
| 20 – 24 | 978,852 | 983,133 | 971,974 | 896,404 | |
| 25 – 34 | 2,964,896 | 2,966,937 | 2,472,682 | 1,292,949 | |
| 35 – 44 | 2,726,656 | 2,594,687 | 2,341,924 | 999,991 | |
| 45 – 54 | 1,293,892 | 1,288,245 | 992,966 | 733,747 | |
| 55 – 64 | 1,074,607 | 1,090,842 | 783,985 | 494,385 | |

e) Following the six main steps of developing a Lorenz curve, plot the Lorenz curve for the **population data** presented in Table 3 below. (10 marks)

**(40 Marks)**

Table 3: Statistics for the fifteen Southern African Development Community (SADC) member states in 2017

| Countries | Population | GDP Mill.$ | GDP per capita | Debt (%GDP) | Deficit (%GDP) |
|---|---|---|---|---|---|
| Angola | 28,813,463 | 95,335 | 3,309$ | 65.44% | -3.30% |
| Botswana | 2,250,260 | 15,581 | 6,924$ | 15.47% | -1.12% |
| DRC | 78,736,153 | 31,931 | 406$ | 16.11% | 0.93% |
| Lesotho | 2,203,821 | 2,264 | 1,027$ | 47.76% | -6.88% |
| Madagascar | 24,894,551 | 10,001 | 402$ | 38.73% | -1.34% |
| Malawi | 18,632,000 | 5,433 | 292$ | 60.21% | -7.10% |
| Mauritius | 1,263,473 | 12,150 | 9,616$ | 61.49% | -3.67% |
| Mozambique | 28,829,476 | 11,272 | 391$ | 113.58% | -5.67% |
| Namibia | 2,479,713 | 10,945 | 4,414$ | 39.97% | -7.67% |
| Seychelles | 94,677 | 1,427 | 15,075$ | 69.01% | 0.21% |
| South Africa | 55,620,000 | 294,900 | 5,302$ | 51.70% | -3.98% |
| Swaziland | 1,132,000 | 3,721 | 3,287$ | 25.18% | -10.53% |
| Tanzania | 55,572,201 | 47,652 | 857$ | 36.71% | -3.29% |
| Zambia | 16,591,390 | 21,064 | 1,270$ | 60.47% | -5.78% |
| Zimbabwe | 16,150,362 | 16,620 | 1,029$ | 49.60% | -1.38% |
| **TOTAL: SADC** | **333,263,540** | **580,296** | **1,741$** | **51.46%** | |

Source: https://countryeconomy.com/countries/groups/southern-african-development-community

## SECTION B: SHORT ANSWERS / ESSAYS (60 MARKS)
## ANSWER ANY TWO QUESTIONS

### QUESTION 2

Using examples, discuss how urban areas are responding to climate change.         **(30 Marks)**

### QUESTION 3

Discuss socio-economic caring activities which are carried out by children in Africa as a result of HIV and AIDS.         **(30 Marks)**

### QUESTION 4

Using examples, discuss social and community determinants of health.         **(30 Marks)**

### QUESTION 5

Using examples, discuss global environmental problems.         **(30 Marks)**