INTERNATIONAL UNIVERSITY OF EAST AFRICA
'Learning to Succeed'

FACULTY OF SCIENCE AND TECHNOLOGY

END OF SEMESTER EXAMINATIONS - APRIL 2025

PROGRAMME: BSEM
YEAR/SEM: YEAR 1/SEMESTER 2
COURSE CODE: BSE 1201
NAME: ENVIRONMENT AND HUMAN POPULATION DYNAMICS

DATE:
TIME:

INSTRUCTIONS TO CANDIDATES:

SECTION A

(Attempt all questions in this section. 40 marks)

Question 1:

1. Which fertility measure accounts for births per 1,000 women of childbearing age (15-49 years) in a given year?
A. Crude Birth Rate
B. General Fertility Rate
C. Age-Specific Fertility Rate
D. Total Fertility Rate

2. What does "mortality" refer to in demography?
A. The number of births in a population
B. The incidence of death within a population
C. The study of aging in a society
D. The process of recording population growth

3. What is population composition?
A. The total number of people in a country
B. The description of a population according to its characteristics
C. The rate at which a population grows
D. The density of population in urban areas

4. A high maternal mortality rate is an indicator of:
A. High fertility levels
B. Poor healthcare services for pregnant women
C. Low life expectancy
D. A rapidly aging population

5. Which age group is typically considered the economically active population?
A. 0-12 years
B. 13-19 years
C. 20-64 years
D. 65 years and above

6. How can education impact population composition and environmental sustainability?
A. Education has no effect on population composition
B. Higher education levels are associated with lower birth rates
C. Education leads to an increase in the youth population
D. Education is only relevant to urban populations

7. A country with a declining fertility rate may experience:
A. A rapidly growing population

B. An increase in the youth population
C. Population aging and labor shortages
D. A decrease in life expectancy

8. Polygamy is a form of nuptiality that includes both polygyny and polyandry.
A. True
B. False

9. High unemployment rates usually lead to an increase in marriage rates.
A. False
B. True

10. What does "nuptiality" refer to in demography?
A. The study of fertility patterns
B. The study of marriage, divorce, and widowhood patterns in a population
C. The process of population aging
D. The total number of births in a population

11.Which of the following best defines fertility in demography?
A. The number of children a woman wants to have
B. The biological ability to conceive and bear children
C. The actual reproductive performance of an individual or population
D. The process of childbirth

12. Which of the following best defines migration in demography?
A. The movement of people within a country only
B. The movement of people from rural to urban areas exclusively
C. The movement of people from one place to another, involving a change of residence
D. The natural increase in a population due to births and deaths

13. The divorce rate in a country has no impact on fertility levels.
A. True
B. False

14. A high divorce rate in a population is likely to:
A. Decrease fertility rates
B. Increase the total fertility rate
C. Has no effect on demographic patterns
D. Increase child mortality

15. Which of the following is NOT a major factor influencing mortality rates?
A. Healthcare access
B. Economic conditions

C. Fertility rates
D. Environmental factors

16.Census data is collected every year in all countries.
A. True
B. False

17. What is the carrying capacity of an environment?
A. The total population of a species
B. The maximum population size that an environment can sustain
C. The average density of a population
D. The minimum number of individuals needed for genetic diversity

18. Rapid human population growth absolutely has no negative consequences on ecosystems
A. True
B. False

19. Surveys can be a reliable source of population data but are usually conducted on a sample rather than the entire population
A. True
B. False

20. A higher age at first marriage is generally associated with lower fertility rates.
A. True
B. False

Question 2:

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11. Polygyny refers to:
A. A marriage system where one woman has multiple husbands
B. A marriage system where one man has multiple wives
C. A type of marriage that only exists in ancient cultures
D. A form of informal marriage registration

12. Which of the following factors is NOT a common component of population composition?

A. Age
B. Sex
C. Eye color
D. Ethnicity

13. What is the relationship between population density and environmental impact?
A. Higher population density always leads to a lower environmental impact
B. Lower population density always leads to a higher environmental impact
C. The relationship depends on consumption patterns and resource management
D. Population density has no impact on the environment

14. The carrying capacity of any given population is determined by its
A. Population growth rate
B. Birth rate
C. Death rate
D. Available resource

15. Which of the following is an odd man out?
A. Sample surveys
B. Census
C. Vital registration systems
D. None of the above

16. The Infant Mortality Rate (IMR) measures the number of deaths per 1,000 live births in which age group?
A. 0-5 years
B. Under 1 year
C. 1-5 years
D. Under 3 years

17. ..... is the process of collecting, compiling and analysing data about the population of a country or specific area.
A. Population composition
B. Population Census
C. Sample Surveys
D. Comprehensive coverage

18. In most societies, urbanization tends to increase marriage rates.
A. True
B. False

19. Urban populations tend to have higher energy and resource consumption compared to their rural counterparts.
A. True

B. False

20. Which of the following factors typically leads to higher marriage rates in a population?
A. Increased female education
B. Economic prosperity and stable employment
C. High divorce rates
D. High mortality rates

SECTION B

(Answer any 3 questions. 20 marks each)

Question 1:

In human population dynamics, fertility refers to the reproductive capacity of individuals or populations, specifically the ability to produce offspring/young ones. It is a key demographic factor that contributes to the growth, decline, or stabilization of a population. With examples discuss how the following factors influence the fertility of a population; (4 marks each)

i. Education levels
ii. Access to healthcare services
iii. Religious beliefs
iv. Family planning & contraception
v. Government policies

Question 2:

a. Define a census (2 marks)
b. What characteristics must a good census possess? (18 marks)

Question 3:

a. Define the term fertility as applied in demography 2 marks
b. What is the formula for calculating the crude fertility rate (CFR)? 3 marks
c. Why is the crude fertility rate considered a "crude" and not an accurate measure of fertility? 6 marks
d. Fertility in human populations is influenced by various factors. With examples, discuss the determinants of fertility in human populations. 9 marks

Question 4:

Differentiate between the following; (4 marks each)

i) Mortality and Natality
ii) Infants & toddlers
iii) Population structure and population density
iv) Polygyny and polyandry
v) Immigration and Emigration

Question 5:

a.What is death? 2 marks
b. Giving at least 3 examples under each factor, discuss the factors that affect the rates of mortality in human populations globally (18 marks)

Question 6:

i). With examples define the following terms (2 marks each)

a. Carrying capacity
b. Sex-specific death rates
c. Age-specific death rates
d. Cause-specific death rates

e. Divorce

ii). Mbale City in Eastern Uganda had 400 male deaths in the year 2023. In the same year, Mbale City had a mid-year male population of 18,000 people. Calculate the sex-specific death rate for Mbale City in 2023. (10 marks)

Question 7:

Discuss how low female education levels and employment participation have contributed to the increase in fertility rates in many developing countries. (20 marks)

Question 8:

a. What is marriage? (2 marks)

b. Discuss the differences and similarities between church marriage and customary marriage (10 marks)

c. The age at which individuals enter their first marriage has a significant impact on fertility rates within a population. Discuss (8 marks)

Question 9:

8. Human population increase is an environmental threat. True or false? Support your discussion with relevant examples. (20 marks)

Question 10:

Question 12

In a country experiencing rising divorce rates, researchers have observed a decline in the fertility rate.

a. How is increasing divorce rate related to declining birth rates? (8 mar

Question 11:

Family planning involves the use of various methods and techniques to prevent or achieve pregnancy.

a. Is family planning important? Give reasons for your answer (10 marks)

b. How does access to and adoption of contraceptives impact fertility and size of a population (10 marks)

Question 12:

a.What do you understand by the term migration? (1 mark)

b.Differentiate between voluntary and forced migration (4 marks)

c.Give the various types of migration (15 marks)