

Model Answers_AS-2294
M.A/ M.Sc. First Semester
End Semester Examination, 2013
ANTHROPOLOGY
Paper: Fourth (Basics of Population Studies)
Time Allowed: Three hours
Section – ‘A’

2x10=20

Note: *Select one of the most appropriate answer from the following objective questions.
Each question carries 2 mark.*

1. (i) Who for the first time used the word *demography* in the year 1855,
 - a. John Graunt
 - b. Achille Guillard**
 - c. Peter R. Cox
 - d. William Brass
- (ii) What are the ancient references which speaks about population characteristics
 - a. Arthasastra
 - b. Ain-i-Akbari
 - c. Both a & b**
 - d. None of the above
- (iii) Populations study involves
 - a. Measurement of the size and growth
 - b. Births and Deaths
 - c. Migration
 - d. All**
- (iv) The study of the size, territorial distribution and composition of population and changes occurring therein, was given by
 - a. Peter R. Cox
 - b. Malthus
 - c. Hauser and Duncan**
 - d. John Graunt
- (v) Which of the following are the consequences of population study, it
 - a. Throws light on population trends
 - b. Effects of external influences acting on population movements
 - c. Preparation of life tables
 - d. All**
- (vi) The book '*The Population problem*' was published in 1922, by
 - a. William Farr
 - b. Lancelot Hogbe
 - c. A.M.Carr-Saunders**
 - d. D.V.Glass
- (vii) The first American demographer
 - a. Walter Willcox**

- b. John Durand
 - c. Louis I. Dublin
 - d. Warren Thompson
- (viii) To obtain reliable estimates of birth and death rates and rates of natural growth, the Sample Registration Scheme was initiated by
- a. First Five Year Plans
 - b. Registrar-General of India**
 - c. Central Family Planning Board
 - d. Committee on Socio-Economic studies on Family Planning
- (ix) Kingsley Davis has referred the inter-relationship between population and sociological skills as
- a. Fertility in connection with attitudes and social institutions
 - b. Population changes in relation to social and economic change
 - c. The labour force with respect to population structure and social organization
 - d. All the above**
- (x) Which one of the following names is associated with migration theories ?
- a. Malthus
 - b. Caldwell
 - c. Ravenstein**
 - d. Chandrashekharan

Section-‘B

4x10=40

Note: Write long answer of the following questions. Attempt any *four* questions.
Each question carries 10 marks.

2. Explain in detail how does population studies evolve as a separate discipline?

Answer 2:

Population studies

The discipline of the study of human population is known by two terms,

1. Population studies, and
2. Demography

Population studies can be understood easily as studies concerned with population. Population studies are concerned not only with population variables but also with the relationships between population changes and other variables like social, economic, political, biological, genetic, geographical etc.

It was in the middle of the 18th century that population studies emerged as a discipline in England, France, Germany and few other European countries. Later United States of America contributed substantially towards the development of population studies. The credit for initiating a new field of empirical research in population studies goes to John Graunt,

Father of Population Studies. His pamphlet, 'Natural and Political Observations made upon the Bills of Mortality', published in London in 1662, is the first important landmark in the history of population studies. Graunt's Observations mainly contained a quantitative analysis of mortality and only incidentally that of fertility and migration. Graunt's study is monumental in the field of population studies in evaluating any population data. Some of Graunt's contemporaries are Sir William Petty wrote Political Arithmetic has considerably influenced the future development of population studies. Graunt and Petty together even prepared a life table.

Edmund Halley, an astronomer, who was immortalized by the comet, named after him. Halley constructed the first empirical life table, based on the data of births and deaths and coined the term 'expectation of life'. The works of Graunt, Petty and Halley inspired further research in Germany, Netherlands, Sweden, and other European countries. Johann Peter Sussmilch, wrote a massive book on population, consisting of tables of universal applicability on mortality. He is considered to be the first person to emphasize the 'law of large numbers'. Gregory King attempted to find that population grew in geometric progression.

Malthus observed the relationship between the potentiality of population growth and available resources and arrived at the conclusion that the potentialities of human population growth might surpass the resources required for its support. The main theme of his essay was 'man could increase his subsistence only in arithmetic progression, his numbers intended to increase in geometrical progression'. Population growth was, therefore, to be regarded as the principal cause of poverty and however, it is enough to point out that the 'Principle of Population', is an important landmark in the history of Population Studies.

Another dimension to the study of population was added with the Western world's increasing awareness of the deterioration in the environment as a result of heavy industrialization and rapid population growth, environmental damage, which led to the diversification in research and specialization. Urban studies, fertility studies, mortality studies etc became fields of specialization and as such improvements in methodology, techniques of population analysis, attitude, practice and development of theoretical frameworks for better understanding of population phenomena adopted. The discipline of

population studies paid much attention to social setting and estimated any population growth as a basis for social and economic planning was also realized by planners and policy-makers.

3. Write short note on

a. Sources of data

b. Occupational disease

Answer 3a

The data required for the study of population are obtained through three sources

1. Population Census
2. Registration of vital events
3. Sample surveys

1. Population Census

Definition of Census

A census of population is the total process of collecting, compiling, evaluating, analyzing and publishing demographic, economic and social data pertaining, at a specified time, to all persons in a country.

The most fundamental source of data for the study of population is the population census. The very purpose of a Census in modern times is to produce statistical data on various aspects of any population. The word 'census' is derived from the latin word censere, meaning to value or tax. In ancient times, inventories of various segments of the population were prepared in order to identify persons who could be taxed, recruited for military service or forced to work. The modern census, on the other hand, aims at enumerating each person and collecting the information at regular intervals with a view to obtain knowledge about the trends in population growth and its structure and characteristics.

Salient features of a Population

A census implies that each individual is separately, but only once, enumerated, and that some important characteristics.

Later write about

2. Registration of vital events

3. Sample surveys

Answer 3b:

Occupational disease

An “occupational disease” is any disease contracted primarily as a result of an exposure to risk factors arising from work activity. “Work-related diseases” have multiple causes, where factors in the work environment may play a role, together with other risk factors, in the development of such diseases.

The WHO Global Plan of Action on Workers’ Health called for improving the diagnosis, reporting and registration of occupational diseases and building capacities for estimating the occupational burden of diseases.

WHO’s activities regarding occupational and work-related diseases include:

- Carrying our estimates of the global burden of disease from major occupational risks, such as injuries, airborne exposures, carcinogens, ergonomic stressors, noise and other specific risks.
- Incorporating occupational diseases and their causes in the 11th revision of the International Statistical Classification of Diseases and Related Health Problems.
- Working with ILO to develop diagnostic and exposure criteria for occupational diseases and to enable primary and secondary health care providers to detect and report such diseases.

Mention various occupational diseases like,

**chemically related diseases,
water borne diseases,
air borne diseases,
environmental related diseases,
biologically related diseases, etc.**

4. Describe the relationship of Population studies with Anthropology?

Answer 4:

Relationship of Population studies with Anthropology

Population studies were generally regarded as a branch of sociology, or economics or even geography. Most of the variables and the theories which explain demographic phenomena originate in the social sciences. The theory of demographic transition is based on an understanding of such other disciplines as economics, sociology, political science, psychology, anthropology and geography. Many of the fertility theories are based on biology, sociology and economics. The changes in the birth rate cannot be explained as independent phenomena. Rather, their explanations have to be sought in the changing economic, social, cultural, psychological and political situations in which they occur. Similarly, the levels and trends in mortality are

related to socio-economic factors. In recent times, another dimension has been added to the study of population; demographic questions such as those related to fertility regulation, are examined with reference to humanistic issues such as human rights and the status of women.

Though it is possible to speak broadly of the inter-relationship between population studies and anthropology considered together, it would be useful to consider each of the disciplines to understand their inter-relationships.

At its most basic level, the components of population change are few indeed. A closed population (that is, one in which immigration and emigration do not occur) can change according to the following simple equation: the population (closed) at the end of an interval equals the population at the beginning of the interval, plus births during the interval, minus deaths during the interval. In other words, only addition by births and reduction by deaths can change a closed population.

Populations of tribes, rural or urban areas however, are rarely closed in the same way. If the assumption of a closed population is relaxed, in- and out-migration can increase and decrease population size in the same way as do births and deaths; thus, the population (open) at the end of an interval equals the population at the beginning of the interval, plus births during the interval, minus deaths, plus in-migrants, minus out-migrants. Hence the study of demographic change requires knowledge of fertility (births), mortality (deaths), and migration. These, in turn, affect not only population size and growth rates of tribes, rural or urban areas but also the composition of the population in terms of such attributes as sex, age, ethnic or racial composition, and geographic distribution.

Anthropology studies primitive societies, and applies the principles of population analysis in studying fertility, mortality, demographic transition, average life expectancy etc. For example, when expectation of life remains roughly the same, but age at marriage is much lower (as in many traditional "primitive" societies), there would be a three-generation overlap.

But when, as in present-day America, and, to a lesser degree, parts of Europe, fairly low marriage age is combined with a tremendous increase in expectation of life, then we have the unprecedented "four-generation family." The dramatic effects of these structures on intergenerational relationship and the transmission of wealth and power is obvious but unstudied.

5. Discuss how population growth is associated with population ecology?

Answer 5:

The geometric or exponential growth of all populations is eventually curtailed by food availability, competition for other resources, predation, disease, or some other ecological factor. If growth is limited by resources such as food, the exponential growth of the population begins to slow as competition for those resources increases. The growth of the population eventually slows nearly to zero as the population reaches the carrying capacity (K) for the environment. The result is an S-shaped curve of population growth known as the logistic curve. It is determined by the equation

$$\frac{\Delta N}{\Delta t} = rN \left(\frac{K - N}{K} \right).$$

As stated above, populations rarely grow smoothly up to the carrying capacity and then remain there. Instead, fluctuations in population numbers, abundance, or density from one time step to the next are the norm. Population cycles make up a special type of population fluctuation, and the growth curves in population cycles are marked by distinct amplitudes and periods that set them apart from other population fluctuations.

Population ecologists commonly divide the factors that affect the size of populations into density-dependent and density-independent factors. Density-independent factors, such as weather and climate, exert their influences on population size regardless of the population's density. In contrast, the effects of density-dependent factors intensify as the population increases in size. For example, some diseases spread faster in populations where individuals live in close proximity with one another than in those whose individuals live farther apart. Similarly, competition for food and other resources rises with density and affects an increasing proportion of the population. The dynamics of most populations are influenced by both density-dependent and density-independent factors, and the relative effects of the factors vary among populations. Density-independent factors are known as limiting factors, while density-dependent factors are sometimes called regulating factors because of their potential for maintaining population density within a narrow range of values.

Because many factors influence population size, erratic variations in number are more common than regular cycles of fluctuation. Some populations undergo unpredictable and

dramatic increases in numbers, sometimes temporarily increasing by 10 or 100 times over a few years, only to follow with a similarly rapid crash.

6. Write short note on

- a. Health hazard b. Demography

Answer 6a:

Health hazard

Health hazard is a condition where a human's health is affected with dangerous exposure at work place.

Stress-related hazards at work

Stress related hazards at work can be divided into work content and work context.

Work contents includes - job content (monotony, under-stimulation, meaningless of tasks, lack of variety, etc) - work load and work pace (too much or too little to do, work under time pressure, etc.) - working hours (strict or inflexible, long and unsocial, unpredictable, badly designed shift systems) - Participation and control (lack of participation in decision-making, lack of control over work processes, pace, hours, methods, and the work environment)

Work context includes - career development, status and pay (job insecurity, lack of promotion opportunities, under- or over-promotion, work of 'low social value', piece rate payment schemes, unclear or unfair performance evaluation systems, being over- or under-skilled for a job) - role in the organization (unclear role, conflicting roles) - interpersonal relationships (inadequate, inconsiderate or unsupportive supervision, poor relationships with colleagues, bullying/harassment and violence, isolated or solitary work, etc) -organizational culture (poor communication, poor leadership, lack of behavioural rule, lack of clarity about organizational objectives, structures and strategies) - work-life balance (conflicting demands of work and home, lack of support for domestic problems at work, lack of support for work problems at home, lack of organizational rules and policies to support work-life balance)

For example:

- Biological hazards, such as TB, Hepatitis, HIV/AIDS, SARS;
- Chemical hazards, such as, glutaraldehyde, ethylene oxide;
- Physical hazards, such as noise, radiation, slips trips and falls;

- Ergonomic hazards, such as heavy lifting;
- Psychosocial hazards, such as shiftwork, violence and stress;
- Fire and explosion hazards, such as using oxygen, alcohol sanitizing gels; and
- Electrical hazards, such as frayed electrical cords.

Answer 6b:

Demography

The term demography is derived from two Greek Words, Demas, the people and graph, to draw or write. Thus its meaning is to draw or Write about people. The credit for fusing together the two Greek words and coining the term demography goes to Achilles Guillard in 1855 wrote his book, Elements de statistique humaine en demographic camparee. In fact John Graunt is the real founder of demography, who in 1762 wrote the book Natural. and poliical observation made upon the bills of Mortality.

Definition of Demography

The Multilingual Demographic Dictionary defines demography as the scientific study of human populations, primarily with respect to their size, their structure and their development.

According to Peter R.Cox, Demography is the study of statistical methods of human population involving primarily the measurements of the size, growth and diminution of the numbers of the people, the proportions of living being born or dying within the same area or region and the related functions of fertility, mortality and marriage.

It is clear from the above definitions that demography is a dynamic and developing discipline and it can be studied either from its technical aspects which involve statistical analysis of the population size and its composition and factors responsible for its growth and its distribution, or from the societal aspects which are concerned with the relationship between demographic processes on the one hand and, social, economic, political. biological and ecological factors on the other.

Scope of demography

From the definitions we can observe that there were no unanimity of views among the different writers. Those who want to enlarge the scope can be called the Macro demographic group and those who maintain narrow view can be put in the micro demography group.

According to Prof. Bogue, Micro Demography is the study of the growth, distribution and redistribution of the population within community, state, economic area or other local area. This

included both numerical and composition aspects and is performed by using meaningful subdivision of community of local areas.

The major aims of demography are as under:

- (1) Achievement-of knowlecie of the size, organization and distribution of population related to the field of study.
- (2) Description of past evolution of population in a given are and its distribution in different fields.
- (3) Enquiry into trends of population and its relationship with the Different aspects of social organization in an area.
- (4) Advance projection and prediction of future demographic Trends and evolution and its possible consequences.

It is crystal clear that demography performs all functions characteristic of a science such as cause and effect relation and predict about future. It employs scientific methods of observation and analysis.

7. Define Migration? Explain different theories of International migration?

Answer 7:

Definition of Migration

Migration is a form of geographical mobility or spatial mobility between one geographical unit and another, generally involving a change in residence from the palce of origin or place of departure to the place of destination or place of arrival. Such migration is called permanent migration and should be distinguished from other forms of movement which do not involve a permanent change of residence.

Migration is the third component of population change, the other two being mortality and fertility. The nature of migration as a factor affecting population size is different from that of mortality and fertility. Migratory movements are, therefore, a product of social, cultural, economic, political and physical circumstances in which individuals and societies find themselves.

International Migration Theories

Ravenstein is regarded as the earliest migration theorist. Ravenstein used census data from England and Wales and examined them. The conclusions were presented in chapter Laws

of Migration in Coming to America. He assumed that migration is closely connected with "push-pull" factors. Both push factors such as low wages, high unemployment rates, lack of health care and pull factors such as: high wages, low unemployment incline people towards leaving their countries of residence. In other words, the primary cause for migration is better external economic opportunities

Many theorists as Allen Jones in American Immigration, Alan Kraut in The Huddled Masses and Thomas Archdeacon in Becoming American followed Ravenstein's conviction of new era in immigration history and started dealing with the question of how people came to the United States and how it influenced the population and society in the United States.

The most important of current theories explaining why international migration begins are:

1. The Neoclassical economics theory,
2. The new economics of migration theory,
3. Segmented labor market theory,
4. Historical-structural theory and the world system theory.
5. Social Capital Theory is a theoretical model explaining perpetuation of International Movement.

Neoclassical Economics: Macro-Theory is probably the best-known approach presenting sources of international migration. It arose from the theoretical model explaining internal labor migration in the face of economic development. According to the theory assumptions:

- 1) The main causes of labor migration are differences in wages between a sending-country and a receiving country. In other words, wage differentials elimination will end international migration of workers and migrants will not migrate if such differentials do not exist.
- 2) International labor migration is influenced by labor market mechanisms. It means that other kinds of markets (insurance market, capital market) do not have an important effect on the international flows of workers
- 3) The international labor migration can be controlled by the government through regulating labor markets in both sending and receiving countries.

Neoclassical Economics: Micro-Theory arose in response to a macroeconomic model. Following assumptions are characteristic of the above-mentioned theoretical model:

- 1) Rational individuals migrate because having calculated costs and benefits they come to the conclusion that they receive the positive net return from movement. In other words migrants estimate the cost and the benefit of moving and migrate to that country where expected net returns are greater than in the country of origin.
- 2) Migrants estimate net returns in each future period by taking the observed earnings and multiplying them by probability of obtaining a job in the destination country to obtain 'expected destination earnings'.
- 3) The policies that affect expected earnings in sending and receiving countries can influence the size of migration flows (D.S Massey 2005)

The New Economics of Migration is a theoretical model that has arisen in response to the neoclassical theory. According to that model:

- 1) Families, households and other culturally defined units of production and consumption are those who count in analysis for migration research (not individuals)
- 2) A wage differential is not a necessary condition for making a decision about migration to other country.
- 3) International migration does not necessarily stop when differences in wages disappear. Conviction of migration rightness will exist if other markets in the country of origin such as insurance market, capital market, consumer credit market etc. are absent or imperfect
- 4) Governments are able to change the size of migration flows through regulating labor markets and, in case they do not exist or are imperfect, all markets mention above.

Dual (or Segmented) Labor Market Theory shows the importance of institutional factors as well as race and gender in occurring labor market segmentation. According to Michael Piore's conclusions presented in the *Birds of Passage*,

Migrant Labour and Industrial Societies the main cause of international migration is a structural demand within advanced economies for both highly skilled and lower skilled workers. *Ipsa facto* migration is not caused by push factors in sending countries but by pull factors in

receiving countries.

According to the theorists:

- 1) International labor migration is largely demanded-based and takes its beginning from recruitment by employers in developed societies or by governments acting on their behalf
- 2) Because the demand for workers from other countries is structurally built into needs of the economy and is expressed through recruitment practice rather than wage offers, differences in international wages are neither a necessary nor a sufficient condition for arising and existing migration of labor workers.
- 3) Governments are able to influence international migration but only through major changes in economic organization.

Historical-Structural Theory and World System Theory: Alternative models of explanation international migration phenomenon are called Historical-Structural Theory and World System Theory respectively.

History-Structural theorists claim that international migration is caused by unequal distribution of political and economic power in the world economy.

The Worlds System Theory argues that penetration of capitalist economic relations into non-capitalist or pre-capitalist societies creates a mobile population that can easily make a decision to migrate.

Social Capital Theory: The last theory to present is called the Social Capital Theory. It is a theoretical model explaining international migration through presenting a concept of migrant networks. According to this approach:

- 1)International migration expands until network connections are wide enough that all people who wish to migrate to that country can do so without difficulties
- 2)The correlations between wage differentials or employment rates and migration flows hardly exist.
- 3)Controlling migration in the light of that approach is very difficult as migrants network are created outside the country and occurs irrespective of policies pursued.

8.Describe briefly the occupational health hazards in a society?

Answer 8:**Occupational health hazard**

Occupational health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards. The health of the workers has several determinants, including risk factors at the workplace leading to cancers, accidents, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases, stress related disorders and communicable diseases and others.

Employment and working conditions in the formal or informal economy embrace other important determinants, including, working hours, salary, workplace policies concerning maternity leave, health promotion and protection provisions, etc.

Health care facilities around the world employ over 59 million workers who are exposed to a complex variety of health and safety hazards everyday including:

- Biological hazards, such as TB, Hepatitis, HIV/AIDS, SARS;
- Chemical hazards, such as, glutaraldehyde, ethylene oxide;
- Physical hazards, such as noise, radiation, slips trips and falls;
- Ergonomic hazards, such as heavy lifting;
- Psychosocial hazards, such as shiftwork, violence and stress;
- Fire and explosion hazards, such as using oxygen, alcohol sanitizing gels; and
- Electrical hazards, such as frayed electrical cords.

Psychosocial risk factors and hazards

Work-related stress has the potential to negatively affect an individual's psychological and physical health, as well as an organisation's effectiveness. Therefore, it is recognized world-wide as a major challenge to workers' health and the health of their organizations.

For many working people it is all too frequent that the working environment is where they spend most of their waking hours. According to a number of surveys, many perform activities that they perceive as demanding, constraining, and otherwise stressful. Mental health problems and other stress-related disorders are recognized to be among the leading causes of early retirement from work, high absence rates, overall health impairment, and low organizational productivity.

Good management and good work organization are the best forms of stress prevention.

Environmental and occupational health and cancer

Globally roughly 19% of all cancers are estimated to be attributable to the environment, including work settings. Understanding some of the facts about environmental and occupational health and cancer can help mitigate the risks. Decreasing exposure to carcinogens also reduces health care costs, and contributes to the overall well-being of communities. Environmental and occupational interventions are critical to achieving a reduction of cancer.

Cancer is a leading cause of death with 7.6 million deaths, and 12.7 million new cases in 2008. Cancer is found in both rich countries and poorer countries. Currently, more than 70% of all cancer deaths are reported from low- and middle-income countries, a figure that is predicted to increase.