M.Sc. 3rd Semester Examination, 2015

ANTHROPOLOGY

PAPER—ANT-302

Full Marks : 40

Time : 2 hours

Answer Q. No. 1 and any three from the rest

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. Answer any five questions : 2 × 5

(a) Define sex ratio.

(b) What does a population pyramid with a tapering base signify?

(c) Define continuous variable.

(Turn Over)
(d) State two objectives of demography.

(e) Mention two sources of demographic data.

(f) State two factors which influence standard error.

(g) Distinguish between 'crude' and 'age-specific death rates'.

2. In which ways formal demography is different from population studies? What are the criticisms of Malthusian theory? 4 + 6

3. (a) Enumerate the supply factors of fertility and briefly explain each factor.

(b) For a population with $\sigma = 40$, a score of $X = 320$ corresponds to a $Z$-score of $+2.00$. What is the mean for this population? 5 + 5

4. (a) Give a brief description of the demographic transition theory highlighting its advantages.

(b) A population of scores is normal with $\mu = 50$ and $\sigma = 12$. If you selected a random
sample of \( n = 64 \) scores, how much error, on the average, should there be between the sample mean and the population mean? Show the distributions by drawing diagrams.

5. (a) State the relationship between Demography and Anthropology and mention some of the applications of Demographic Anthropology.

(b) A researcher would like to know if oxygen deprivation at the time of birth has a permanent effect on IQ. It is known that scores on a standard intelligence examination are normally distributed for the population with \( \mu = 100 \) and \( \sigma = 15 \). The researcher takes a random sample of individuals for whom complications at birth indicate moderate oxygen deprivation. The sample data are as follows: 92, 100, 106, 78, 96, 94, 98, 91, 83, 81, 86, 89, 87, 91, 89. Is there any evidence for an effect? Test with alpha set at 0.05.
\[ z + 5 + 2 \]

160.3 cm?

From the population whose height is 160.3 cm, can you predict the BMI of an individual?

<table>
<thead>
<tr>
<th>161.0</th>
<th>160.4</th>
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<tbody>
<tr>
<td>15.6</td>
<td>160.2</td>
</tr>
<tr>
<td>18.0</td>
<td>159.8</td>
</tr>
<tr>
<td>17.5</td>
<td>159.8</td>
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<tr>
<td>15.5</td>
<td>154.1</td>
</tr>
<tr>
<td>16.5</td>
<td>163.5</td>
</tr>
<tr>
<td>Bmi</td>
<td>(cm)</td>
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</tbody>
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Find out the regression equation \( y = ax + b \) from the following data set on height and BMI:

\( x = 15 \, \text{cm}, 
\( y = 161.0 \, \text{cm} \)

What is the relationship between correlation and regression?