

Exam Date & Time: 26-Sep-2020 (10:00 AM - 01:30 PM)



PSG COLLEGE OF ARTS AND SCIENCE

Note: Writing 3hrs: Checking & Inserting Image : 30mins

BSc DEGREE EXAMINATION MAY 2020
(Sixth Semester)

Branch - STATISTICS

DEMOGRAPHIC METHODS [14STU20]

Marks: 75

Duration: 210 mins.

SECTION A

Answer all the questions.

- 1) State any two uses of vital statistics. (2)
- 2) What is population census? (2)
- 3) Define: General fertility rate. (2)
- 4) Define: Age specific fertility rate. (2)
- 5) Write the formula for crude death rate for males. (2)
- 6) Define standardized death rates. (2)
- 7) Define p_x . (2)
- 8) Write the formula for q_x . (2)
- 9) What is stationary population? (2)
- 10) What is population projection? (2)

SECTION B

Answer all the questions.

- 11) Explain registration methods in vital statistics. (5)
 - a)
 - [OR]
 - b) Explain the scope of demography. (5)

- 12) Explain crude birth rate with its merits and demerits. (5)
- a) [OR] Derive gross reproduction rate. (5)
- b)
- 13) Write short note on (i) Crude Death Rate (ii) Specific Death Rate. (5)
- a) Derive Makeham's Law. (5)
- b)
- 14) Prove that $T_x = \frac{1}{2}l_x + l_{x+1} + l_{x+2} + \dots$ (5)
- a) Discuss Force of Mortality. (5)
- b)
- 15) Explain stable population. (5)
- a) Describe population estimates and projection. (5)
- b)

SECTION C

Answer 3 out of 5 questions.

- 16) Discuss the various sources of demographic data. (10)
- 17) Compute (i) G.F.R (ii) S.F.R (iii) T.F.R. (10)
- | | | | | | | | |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Age group of female child: | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
| Number of Women ('000): | 16.0 | 16.4 | 15.8 | 15.2 | 14.8 | 15.0 | 14.5 |
| Total Births: | 260 | 2244 | 1894 | 1320 | 916 | 280 | 145 |

- 18) Compute Crude death rates of given population A and B. (10)
- | Age-group (years) | A | | B | |
|-------------------|------------|--------|------------|--------|
| | Population | Deaths | Population | Deaths |
| Under 10 | 20,000 | 600 | 12,000 | 372 |
| 10-20 | 12,000 | 240 | 30,000 | 660 |
| 20-40 | 50,000 | 1,250 | 62,000 | 1,612 |
| 40-60 | 30,000 | 1,050 | 15,000 | 325 |
| Above 60 | 10,000 | 500 | 3,000 | 180 |

19)

(10)

Fill in the blanks of the following table which are marked with question marks.

Age x:	l_x	d_x	q_x	p_x	L_x	T_x
20:	6,93,435	?	?	?	?	35081126
21:	6,90,673	-	-	-	-	?

20)

Explain the various growth rates in Demography.

(10)

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