

P.S.G. COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2019
(Sixth Semester)

Branch – **STATISTICS**

DEMOGRAPHIC METHODS

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 x 2 = 20)

- 1 State the methods of obtaining vital statistics.
- 2 Define civil registration.
- 3 State the various fertility measurements.
- 4 What is sex ratio?
- 5 Give any two merits of mortality.
- 6 Write a note on sources of mortality.
- 7 State any two uses of life table.
- 8 What is migration?
- 9 Define population projection.
- 10 Write a note on stationary population.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks

(5 x 5 = 25)

- 11 a State the various sources of demographic data.
OR
- b Explain the scope of demography.
- 12 a Write a short note on general fertility rate.
OR
- b State the various factors affecting fertility.
- 13 a Write a note on (i) Crude death rate (ii) Infant mortality rate.
OR
- b Derive Gompertz law.
- 14 a Explain the construction of life table.
OR
- b Give the reasons for Migration.
- 15 a Explain the importance of population projection.
OR
- b Explain geometric growth rate.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks

(3 x 10 = 30)

- 16 Discuss how population data as an aid to social, economic and health planning.
- 17 From the data given below, calculate the gross and net reproduction rates.

Age group	Female population (in '000)	Female live birth	Survival
15-19	1399	15133	0.9694
20-24	1422	94155	0.9668
25-29	1521	102676	0.9632
30-34	1756	72490	0.9584
35-39	1451	31402	0.9519
40-44	1689	10640	0.9424
45-49	1667	700	0.9279

- 18 Explain the causes of decline in mortality rates in developing countries.
- 19 With usual notation prove that
 (i) $\frac{d}{dx} l_x = -dx$ (ii) $\frac{d}{dx} T_x = -l_x$ (iii) $\frac{d}{dx} e^0_x = (-1 + \mu_x e^0_x)$
- 20 Derive logistic curve.