

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BA DEGREE EXAMINATION DECEMBER 2018
(Fourth Semester)

Branch – **SOCIOLOGY**

SOCIAL STATISTICS – II WITH COMPUTER APPLICATIONS

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

- 1 Define Class Symbol.
- 2 State the methods of Studying association.
- 3 How the level of the crude birth rate is determined?
- 4 Give any two uses of Life table.
- 5 Define a time series.
- 6 What are the components of time series?
- 7 State addition theorem on probability.
- 8 From a bag containing 10 black and 20 white balls, a ball is drawn at random. What is the probability that it is black?
- 9 Give the formula to calculate correlation coefficient using MS Excel.
- 10 Write the formula to calculate variance of Binomial distribution using MS Excel.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Find whether A and B are independent in the following cases:
(AB)=256, (αB)=768, (Aβ)=48; (αβ)=144.
- b Write short notes on Yule's coefficient of association.
- 12 a From the following figures calculate the female gross reproduction rate if the ratio of male and female children be 48:52.

Age Group	No. of Children born to 1000 women	Age Group	No. of Children born to 1000 women
15-19	50	35-39	80
20-24	180	40-44	40
25-29	200	45-49	10
30-34	150		

OR

- b Explain the uses of vital statistics in detail.
- 13 a Write short notes on seasonal variation.
- b Construct 4-yearly moving average from the following data relating to the production of tea in country X.

Year	Production (in lbs.)	Year	Production (in lbs.)
2004	464	2009	540
2005	515	2010	557

- 14 a A problem in statistics is given to five students A,B,C,D and E. Their chances of solving it are $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$ and $\frac{1}{6}$. What is the probability that the problem will be solved?
OR
- b Explain the importance of Normal distribution.
- 15 a Explain the method of moving average using MS-Excel.
OR
- b Write down the computational procedure to find regression using MS-Excel.

SECTION - C (30 Marks)Answer any **THREE** Questions**ALL** Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Prepare a 2X2 table from the following information, calculate Yule's coefficient of association and interpret the result.
N=1500 (α)=1117, (β)=360, (AB)=35.

- 17 The table below gives the life table for rabbits. Find $d_2, p_1, q_2, l_3, e_4^0$.

x	0	1	2	3	4	5	6
l_x	100	90	80	75	60	30	0

- 18 The following table relates to the tourist arrivals (inn millions) during 1997 to 2003 India. Estimate for the year 2007.

Years	1997	1998	1999	2000	2001	2002	2003
Tourist Arrivals (in millions)	18	20	23	25	24	28	30

- 19 Fit a poisson distribution to the data given below:

x	0	1	2	3	4	5
f	142	156	69	27	5	1

- 20 Explain the method of least squares using MS Excel.

Z-Z-Z

END