PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2017
(First Semester)
Branch - STATISTICS
DESCRIPTIVE STATISTICS

Time : Three Flours   Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks   (1 0 x 2 = 20)

1   Define tabulation of data.

2   Define geographical classification of data.

3   What is measures of central tendency?

4   Define standard deviation.

5   Write any two properties of coefficient of correlation.

6   Define regression.

7   What is the chance that a leap year selected at random will contain 53 Sundays?

8   If $P(A) = 0.9$, $P(B/A) - 0.8$, find $P(A \cap B)$.

9   Define distribution function of a random variable.

10   White any two properties of probability density function.

SECTION - B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQE'AL** Marks (5 x 5 = 25)

11 a Explain the classification of data with example.

OR

b Explain any two methods of collecting primary' data.

12 a Calculate the standard deviation for the following data.

Age (in yrs) :	20-30	30-40	40-50	50-60	60-70	70-80	80-90
N a o f members :	3	61	132	153	140	51	2

OR

b White merits and demerits of range.

13 a The rank of same 16 students in mathematics and physics are as follows:
(1, 1) (2, 10) (3, 3) (4, 4) (5, 5) (6, 7) (7, 2) (8, 6) (9, 8) (10, 11) (11, 15) (12, 9) (13, 34) (14, 12) (15, 16) (16, 13). Calculate the rank correlation coefficient for proficiencies of this group in mathematics and physics.

OR

b White the difference between correlation and regression.

14 a Prove that the probability of complementary event A of A is given by
$P(\bar{A}) = 1 - P(A)$.

OR

b A card is drawn from a pack of 52 cards, find the probability of getting a king or a heart or a red card.

15 a   A continuous random variable X has a pdf $f(x) = 3x^2$, $0 < x < 1$. Find a and 'b' such that (i) $P(x < a) = P(x > a)$ and (ii) $P(x > b) = 0.05$.

OR

b   If X and Y are two random variables then prove that
$E(X + Y) = E(X) + E(Y)$.

SECTION - C (30 Marks!
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks ($3 \times 10 = 30$)

16 Explain diagrammatic representation of data with example.

17   Calculate (i) Quartile deviation and (ii) Mean deviation from mean for the following date.

Marks:	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of students :	6	5	8	15	7	6	3

18   Calculate the correlation coefficient from the following heights (in inches) of father (x) and their sons (y).

X:	65	66	67	67	68	69	70	72
Y:	67	68	65	68	72	72	69	71

19   State and prove Baye's theorem for n events.

20   A coin is tossed until a head appears. What is the expectation of the numbers of tosses required?

Z-Z-Z   END