BCom DEGREE EXAMINATION DECEMBER 2017
(First Semester)

Branch - COMMERCE (COST & MANAGEMENT ACCOUNTING)

BUSINESS MATHEAMTICS AND STATISTICS

Time : Three Hours   Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions cany **EQUAL** marks   (10x2 = 20)

1   Calculate the simple interest on Rs. 500 for 73 days at 6% p.a.

2   Express the following exponential form into logarithmic form : $3^2 = 9$.

3   Differentiate the following with respect to xf(x)-T5x^4.

4   Define calculus.

5   What are diagrams?

6   Find the mode for the following data:
320, 395, 342, 444, 551, 395, 390, 395.

7   Write the fisher's ideal index formula to find the price index number.

8   What is scatter diagram?

9   What is a time series?

10   A die is rolled find the probability that an even number is obtained?

SECTION - B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5x5= 25)

11 a Find the sum of the series :
     72 + 70 + 68 +.......... +40.

                    OR

    b   Find the number of permutations for the following:
         (i) Accountant (ii) Engineering.

12 a Let $y = (5x^4 + 2)(x^5 + 4x3)$ find $\wedge$.
                                          dx
                    OR

    b J$(3-2x-x^4)dx = 3$ Jdx-2jx dx-jx^{4}dx.

13 a Marks in statistics of 60 students in an examination are given below

22	**47** 9	42	31	17	13	15	18	13	2	21	12	26	29
27	38 15	0	33	10	34	29	26	16	25	33	16	29	35
36	10 24	22	26	19	14	36	18	25	21	33	33	27	26
35	25 18	28	25	17	38	10	3	31	24	3	18	28	27

    Prepare a frequency table taking class - intervals as 0 - **7,** 8 - 15, 16 - 23
    and so on.
                    OR

    b From the following data, compute arithmetic mean.

Marks obtained:	0- 10	10-20	20-30	30-40	40-50	50-60
No. of students:	5	10	25	30	20	10

Cont....

14 a Compute (i) Laspeyre's (ii) Paasche's and (iii) Fisher's ideal index
numbers.

Item	Price		Quantity	
	Base year	Current year	Base year	Current year
A	6	10	50	50
B	2	2	100	120
C	4	6	60	60
D	10	12	30	25

OR

b From the following information on values of two variables x and y find
the two regression lines
N = 10; Ex = 20; Zy - 40; Ex^2 = 240; Ey^{2}^ 410; Zxy = 200.

15 a Mention the properties of a normal distribution.
OR
b Explain the concept of probability.

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

16 If A ={1,2, 3}; B = {1, 2, 3, 4, 5} and C = {3, 4, 5, 6}
find : (i) A A B (ii) A u (B A C) (iii) (A A B) n C.

17 Evaluate $f \frac{\triangle x + 7) dx}{2x^2 - 3x - 2}$.

18 Find the standard deviation.

Class interval:	0- 10	10-20	20-30	30-40	40-50	Total
Frequency:	2	5	9	3	1	20

19 Ten competitors in a musical test were ranked by three judges. A, B and
C in the following order.

Judge A:	1 6	5	10	3	2	4 9 7	8
Judge B :	3 5	8	4	7	10	2 1 6	9
Judge C:	6 4	9	8	1	2	3 10 5	7

Using rank correlation method, discuss which pair of judges has the
nearest approach to common likings in music.

20 Using three year moving averages determine the trend values:

Year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	3992
Production ('000 tons):	21	22	23	25	24	22	25	26	27	26

Z-Z-Z   END