

BCOM III SEMESTER END EXAMINATION, OCTOBER 2018

GENERIC ELECTIVE 3: BUSINESS STATISTICS-I

Duration: 02 Hours

Total Marks: 80

Instructions : (i) Attempt All Questions.

(ii) Figure to the right indicate full marks.

(iii) Use of simple (Non Scientific) calculator is allowed.

(iv) Graph papers will be supplied on request.

Q.1) Answer the following: (16)

a) Write any 1 point of difference between Variable and Attribute. (3)

b) Draw more than Ogive for the following data: (6)

Class Interval	40-48	48-56	56-64	64-72
Frequency	23	10	20	50

c) Calculate  $P_{84}$  and Mode for the following data: (7)

Class Interval	30-40	40-50	50-60	60-70
Frequency	251	506	249	94

OR

Q. 1) Answer the following: (16)

x) Write any 3 functions of Statistics. (3)

y) Construct Frequency Polygon for the following data: (6)

Class Interval	30-50	50-70	70-90	90-110
Frequency	66	102	30	50

z) i) Calculate Mean for the following data: (7)

x	35	40	45	60
Frequency (f)	12	22	18	25

ii) Calculate Median for the following data:

Class Interval	80-84	84-88	88-92	92-96
Frequency	55	25	81	39

Q.2) Answer the following: (16)

a) write any 2 points of distinction between Primary data and Secondary data. (3)

b) Calculate Mean Deviation from Mean for the following data: (6)

Class Interval	42-44	44-46	46-48	48-50
Frequency	22	13	15	20

c) For the following data calculate Simple Average of Price Relatives taking 2005 as base year :

(7)

Commodity	Price in	
	2005	2006
A	55	68
B	19	31
C	33	39
D	40	44

**OR**

**Q.2) Answer the following:**

(16)

x) i) Write any 2 applications of Statistics in daily life.

(3)

ii) Write any 2 requisites of good Questionnaire.

y) Calculate Bowley's Coefficient of Skewness for the following data:

(6)

Class Interval	60-80	80-100	100-120	120-140
Frequency	106	294	250	150

z) i) Calculate Real Income for the following data:

(7)

Year	2006	2007	2008
Income	12900	13500	16030
Index number	100	115	125

ii) For the following data calculate Weighted Aggregative Price Index Number taking 2011 as base year :

Commodity	Price in		Weights (w)
	2011	2012	
A	32	36	7
B	39	50	8

**Q.3) Answer the following:**

(16)

a) Draw a Simple Bar Diagram representing the following data:

(3)

Year	2015	2016	2017
Number of cars sold of Brand A	90	120	100

b) Fit a trend line by method of Least Squares for the following data:

(6)

Year	2001	2002	2003	2004	2005	2006	2007
Production	19	22	25	30	27	26	30

c) Calculate Mean and Coefficient of Variation for the following data: (7)

Class Interval	17-21	21-25	25-29	29-33
Frequency	5	4	3	19

OR

**Q.3) Answer the following:** (16)

x) Draw a Subdivided Bar Diagram representing the following data: (3)

	Number of students enrolled for Bachelor of Science in the subject of			
Year	Chemistry	Physics	Total	
2010	38	42	80	
2011	65	35	100	

y) Fit a Second Degree Trend Curve for the following data: (6)

Year	2005	2006	2007	2008	2009
Import	10	11	12	17	20

z) If Karl Pearson's Coefficient of Skewness = 0.63, Mode=106 and standard deviation=9.53, then find the value of coefficient of Variation. (7)

**Q.4) Answer the following:** (16)

a) 1) Write any 2 examples of Continuous Variable. (1)

2) Mention any 2 uses of Index Numbers. (1)

3) State the 2 models of time series. (1)

b) i) Calculate Harmonic Mean for the following data: (6)

x	2	6	15	29
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ii) If Mean=31 and Mode=20, then find the value of Median.

c) Calculate 4 yearly centred averages for the following data and represent the trend values on the graph: (7)

Year	2003	2004	2005	2006	2007	2008	2009
Export	41	40	43	36	37	38	40

OR

**Q. 4) Answer the following:** (16)

x) 1) Define Sample. (1)

2) Write Paasche's Price Index Number formula. (1)

3) With which characteristic movement of time series will you mainly associate the following: (1)

Sale of firecrackers is maximum at the time of Diwali

y) For the following data calculate Quartile Deviation: (6)

Class Interval	10-16	16-22	22-28	28-34
Frequency	14	26	33	23

z) Fit a trend line by the method of Semi Averages for the following data: (7)

Year	2003	2004	2005	2006	2007	2008
Yield	23	20	26	30	29	31

**Q.5) Answer the following:** (16)

a) The following data gives the weight of 12 students of a certain school: (3)

55,41, 32, 67, 57,48, 36,65, 52, 42, 37, 58

Taking class intervals as 30-40, 40-50, 50-60 , 60-70 prepare a frequency distribution table.

b) i) Calculate  $D_2$  for the following data: (6)

Class Interval	10-18	18-26	26-34	34-42
Frequency	28	45	66	11

ii) If  $n_1 = 49$ ,  $n_2 = 51$ ,  $\bar{x}_1 = 18$  and  $\bar{x}_2 = 16$ , then find the combined mean ( $\bar{x}$ ) of all the 100 items.

c) Calculate Fixed Base Index numbers for the following data taking 2012 as base year: (7)

Year	2012	2013	2014	2015	2016
Price	31	42	44	50	56

**OR**

**Q.5) Answer the following:** (16)

x) i) Define Classification. (3)

ii) Write any 1 point of distinction between Inclusive and Exclusive Class Interval.

y) Calculate Standard Deviation for the following data: (6)

x	20	22	24	28
Frequency ( f )	45	32	12	13

z) Splice the following Index number series: (7)

Year	Index numbers with base	
	2011	2013
2011	100	
2012	141	
2013	168	100
2014		123
2015		137