

The CES College of Arts and Commerce Cuncolim Salcete Goa
SYBCOM III Semester End Examination,
Business Statistics

Marks: 80

Duration: 2hrs

Date:

Time: 10.00.a.m. to 12.00 noon

Instructions: 1) Attempt all questions.

2) Figure to the right indicates full marks.

3) Use of non – programmable calculator is allowed.

4) Log tables and graph papers will be supplied on request.

Q.1. Attempt the following:

a) What are the functions of statistics? (3mks)

b) Draw a pie diagram for the following data: (6mks)

Ocean Area(million sq. km)

A	70.8
B	28.6
C	7.6
D	4.8
E	41.2

c) Find the median for the following data: (7mks)

x:	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50
f:	4	8	10	14	16

OR

Q.I. Attempt the following:

x) Explain limitations of Statistics. (3mks)

y) For the data given below calculate Price Index number using weighted aggregative of prices. (6mks)

Commodity	Price		Weight
	Current Year	Base Year	
A	10	10	05
B	12	08	06
C	15	10	04
D	20	10	02

z) Find the mode for the following data: (7mks)

C.I:	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50
f:	2	4	5	4	3

Q.2. Attempt the following:

a) What is the difference between inclusive and exclusive type of class interval. (3mks)

b) Consider the following data: (6mks)

C.I:	20 - 40	40 - 60	60 - 80	80 - 100	100 - 120
f:	4	10	18	11	7

Find median and mode.

- c) The data given below gives the imports of two companies A and B. Draw suitable diagram. (7mks)

Year	Imports	
	Company A	Company B
2012-13	120	80
2013-14	135	90
2014-15	150	100
2015-16	160	120
2016-17	170	140

OR

Q.II. Attempt the following:

- x) Explain difference between parameter and statistics. (3mks)

- y) Find the Quartile Deviation for the following data: (6mks)

x:	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70
No of Students:	20	25	40	12	31	15	16

- z) Consider the following data: (7mks)

Year:	2012	2013	2014	2015	2016	2017
Average Income:	22,000	23,300	24,300	25,000	27,100	30,500
Price Index Number:	100	120	130	150	180	210

Calculate the real income from 2012 to 2017. Find the year in which employees have the greatest purchasing power.

Q.3. Attempt the following:

- a) Explain ogive less than x curve. (3mks)

- b) Fit a linear trend by the method of least square for the following data: (6mks)

Year	2011	2012	2013	2014	2015	2016	2017
Investment	265	270	280	300	29	320	310

- c) Find the Coefficient of Skewness for the following data: (7mks)

x:	1	2	3	4
f:	1	3	4	2

OR

Q.III. Attempt the following:

- x) Explain Frequency Polygon. (3mks)

- y) Compute the trend curve by the method of least squares for the data given below: (6mks)

Year:	2011	2012	2013	2014	2015	2016	2017
Sales:	12	10	14	11	13	15	16

(in lakhs)

- z) For the following data, find Bowley's measure of Skewness. (7mks)

x:	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50
f:	8	16	14	12	10

Q.4. Attempt the following:

- a) What are the components of Time Series. (3mks)

- b) Calculate the coefficient of variation for the following data: (6mks)

x:	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70
f:	4	8	3	5	10

- c) Compute the trend by method of five yearly moving averages for the following data: (7mks)

Year:	2010	2011	2012	2013	2014	2015	2016	2017	2018
Sales:	10	12	16	15	19	24	23	20	26

(in crores)

OR

Q.IV. Attempt the following:

x) Explain models of Time Series. (3mks)

y) Find the mean deviation from mode for the following data: (6mks)

x:	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90 - 100
f:	10	12	15	11	10	5

z) Find the trend by 3 yearly moving averages for the following data: (7mks)

Year	2009	2010	2011	2012	2013	2014	2015	2016
Prod ⁿ	12	14	15	13	18	20	19	24

Q.5. Attempt the following:

a) Differentiate between Census Survey and Sample Survey. (3mks)

b) Find the standard deviation for the following data: (6mks)

x:	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
f:	2	8	10	6	3

c) Consider: (7mks)

Year:	2011	2012	2013	2014	2015	2016	2017	2018
Price:	10	15	14	18	20	24	28	31

Find the index number for 2011 to 2018 with base 2013.

OR

Q.V. Attempt the following:

x) Explain (i) Attribute (ii) Variate. (3mks)

y) Consider: (6mks)

	Boys	Girls
Number	100	50
Mean Weight	60	45
Variance	9	4

Find combined Standard Deviation.

z) Consider the following data: (7mks)

Year:	2010	2011	2012	2013	2014	2015	2016	2017
Index Number:	100	120	160	175	210	240	260	315

Find chain base index numbers.

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