PAPER ID-311090

Subject Code: RMB104

Roll No: | | | | | | | | | | | | | |

MBA
(SEM I) THEORY EXAMINATION 2020-21
BUSINESS STATISTICS

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a	Write note on various types of data.
b	Distinguish between descriptive and inferential statistics.
c	How critical value is used in testing of hypothesis.
d	Suppose a study is conducted on laundry usage in 50 households that contains washer and dryers. Following data are the number of gallons used by each washing machine during the washing cycle Summarize the data so that study findings cab be reported:

15	17	16	15	16	17	18	15	14	15
16	16	17	16	15	15	17	14	15	16
16	17	14	15	12	15	16	14	14	16
15	13	16	17	17	15	16	16	16	14
17	16	17	14	16	13	16	15	16	15

e	Explain the components of time series by giving example.
f	A card is drawn from pack of 52. What is the probability of getting a spade or knave
g	Illustrate Laplace criterion with the help of example.

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a.	What is meant by measure of dispersion? What are the characteristics of a good measure of dispersion?
b.	From the following data compute the Laspeyer's and Paasche's Price Index for the current year

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	1	6	5	8
B	2	7	4	7
C	3	8	3	6
D	4	9	2	5

c.	What do you understand by regression? What role does it play in business and economic analysis?
d.	One bag contains 4 white balls and 3 black balls and second bag contains 4 white and 5 black balls. One of the bags is chosen at random and a draw of 2 balls is made from it. Interpret the probability that one is white and the other is black.
e.	What do you understand by hypothesis? Discuss the procedure of testing hypothesis.

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SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a)	The radio music listeners market is diverse. Listener formats might include adult contemporary, album rock, and top 40, oldies, rap, and country and western, classical and jazz. In targeting audiences, market researchers need to be concerned about the ages of the listeners attracted to particular formats. Suppose a market researcher surveyed a sample of 170 listeners of oldies stations and obtained the following age distribution.

Age	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55
F	9	16	27	44	42	23	7	2

Find the mean median and mode.

(b)	Statistics are dangerous in the hands of a non expert person. Explain

4. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Calculate the trend values by the method of moving average assuming a three yearly cycle from the following data relating to sugar production in India **Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018** **Production 200 120 280 240 160 330 360 400 320 360 360**
(b)	Index numbers are said to be economic barometers. Explain this statement.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Explain the meaning and significance of Correlation. How would you distinguish between positive and negative correlation?
(b)	Two judges in a beauty contest had given the following marks X 49 69 39 49 29 Y 59 59 59 49 39 Find Spearman's rank correlation coefficient between X & Y

6. Attempt any *one* part of the following: 7 x 1 = 7

(a)	In an intelligence test administered to 2000 students, the average score was 45 and the standard deviation was 15. Find: i) The expected number of students scoring more than 50. ii) The number of students scoring between 30 and 55.
(b)	Explain probability. Distinguish between discrete and continuous probability distributions.

7. Attempt any *one* part of the following: 7 x 1 = 7

(a)	A fruit vendor purchases fruits for Rs 5 a box and sells for Rs 10 a box. The high markup reflects the perish ability of the fruit and the great risk of stocking it., the product has no value after the first day it is offered for sale. The vendor faces the problem of how many boxes to order for tomorrow's business. Based on 90 day observation of the past sales given in the following table, how many boxes the fruit vendor must order to maximize his profit

Daily Sales	No. of days sold	Probability
10	18	.20
11	36	.40
12	27	.30
13	9	.10
Total	90	1.00

(b)	What do you understand by EVPI? How is it calculated?