



Sanjay Ghodawat University, Kolhapur

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Year and Program

B.Com-I, 2019

Course Code CBC104

School of Commerce and

Management

Course Title

**Business Mathematics and
Statistics**

Department

Commerce

Semester – Odd (I)

10.30 – 1.30 PM.

Day and Date *Wednesday* **End Semester Examination**
22-05-2019

Time: 3 hrs, Max Marks: 100

Instructions:

- 1) All Questions are compulsory.
- 2) Step wise calculation will get full marks

Q.1 a) True & False (any 5)

Marks 10 **Level** L1 **Cos** 104.1

1. In continued proportion if $a : b = b : c$ then $b^2 = ac$
2. A bill discounting facility is a preferable option to get your small business access to raw material it which needs.
3. $P(A \cap B) = P(A) \cdot P(B)$ in case of exclusive events
4. Average due date (ADD) is generally used for settling accounts between principle and agent
5. In case of mutually exclusive event, $P(A \cup B) = P(A) + P(B)$
6. Ratio is fraction of quantities of different kind

b) Answer the short questions (any 5)

10 L2 104.1

1. Explain data and types of data
2. Define Median & Discuss the relative merits and demerits.
3. Explain the term statistics and discuss its scope in various fields
4. What are the requisites of good measure of dispersion.
5. Explain the term coefficient of variation. Discuss its usefulness in business
6. Define Mean & Discuss the relative merits and demerits.

Q.2 Solve the following

- a) i. The numbers 14, 16, 35, x are in proportion. Find out the fourth term for which they will be in proportion .
- ii. If $(2x+3y):(3x+5y) = 18:29$ find the value of x:y

5 L2 104.2

5 L2 104.2

OR

- a) i. Find two numbers such that the mean proportional between them is 24 and third proportional to them is 1536.
- ii. If $(4x+5):(3x+11) = 13:17$ find the value of x.

5 L2 104.2

5 L2 104.2

ESE

- b) Suman sold goods to Aman on dates shown below. Aman has given his acceptance for certain period through bill of exchange. Calculate average due date

10 L3 104.3

Date of sales	Period of bill	Amount of bill
13/1/2019	3 months	20000
15/2/2019	3 months	25000
17/2/2019	2 months	40000
18/3/2019	2 months	30000
10/4/2019	2 months	35000
		150000

OR

- b) i.) Write the negation of the following statements :
- (a) p : All triangles are equilateral triangles.
- (b) q : 9 is a multiple of 4.
- (c) r : A triangle has four sides.

5 L3 104.3

ii.) Write the truth value of the negation of each of the following statements:

5 L3 104.3

- (i) p : Every square is a rectangle.
- (ii) q : The earth is a star.
- (iii) r : $2 + 3 < 4$

Q.3 Solve the following

- a) i.) From a bag containing 10 red, 4 blue and 6 black balls, a ball is drawn at random. What is the probability of drawing
- a) A Red Ball
- b) A Blue Ball
- c) Not A Black Ball
- ii.) Two dice are thrown. What is the probability that sum of the number appearing on the dice is 7 or 8

5 L2 104.4

5 L2 104.4

OR

- a) i.) Two balls are drawn at random with replacement from a box containing 15 red and 10 white balls. Calculate the probability that
- (a) Both balls are red.
- (b) First ball is red and the second is white.
- ii.) Two dice are thrown at a time. Let E_1 be the event of getting 6 on the first die and E_2 be the event of getting 1 on the second die. Find the events E_1 and E_2 were dependent or independent.

5 L2 104.4

5 L2 104.4

- b) Following table gives the frequency distribution of the monthly income of 600 families in a certain city. Draw less than and more than OGIVE Curve.

10 L2 104.4

Monthly Income('00 Rs.)	0-75	75-150	150-225	225-300	300-375	375-450	450-above
Number of families	60	170	200	60	50	40	20

ESE

OR

- b) From the following data draw Histogram & Frequency polygon 10 L2 104.4

Class	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
Frequency	7	10	20	13	17	10	14	9

Q.4 Solve any Two

- a) Calculate the Mean & Median from the following frequency distribution. 10 L3 104.5

marks	No. of students
0-10	12
10-20	18
20-30	27
30-40	20
40-50	17
50-60	6

- b) Calculate the Mean sales & Median sales from the following frequency distribution 10 L3 104.5

Sales In Rs'00	No. of shops
0-10	5
10-20	25
20-30	25
30-40	18
40-50	7

- c) Calculate the Mean, Median & Mode of the following data 10 L3 104.5

Class	Frequency
100-110	4
110-120	7
120-130	15
130-140	24
140-150	40
150-160	25
160-170	16
170-180	10
180-190	6
190-200	3

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Q.5 Solve any Two

- a) Compute the Quartile Deviation and Coefficient of Quartile Deviation from the following data 10 L4 104.6

Marks	No. of students(f)
10-20	60
20-30	45
30-40	120
40-50	25
50-60	90
60-70	80
70-80	120
80-90	60

- b) Calculate S.D and coefficient of S.D. for the following data 10 L4 104.6

Class	frequency
5-10	6
10-15	5
15-20	15
20-25	10
25-30	5
30-35	4
35-40	3
40-45	2

- c) The following data gives the results obtained on the basis of runs scored by two players A and B in 10 matches. Who is more consistent player. 10 L4 104.6

	Player A	Player B
Average runs	44.30	62.70
Standard deviation	4.21	9.83

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