

**2008000204060001**  
**EXAMINATION FEBRUARY -MARCH 2024**  
**BACHELOR OF COMMERCE (HONORS) (FOURTH**  
**SEMESTER) BUSINESS STATISTICS – II LEVEL 6**

[Time: As Per Schedule]

[Max. Marks: 50]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination : **BACHELOR OF COMMERCE (HONORS) (FOURTH SEMESTER)**
- b. Name of the Subject : **BUSINESS STATISTICS – II LEVEL 6**
- c. Subject Code No : **2008000204060001**

2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Simple calculator can be used.
6. Statistical tables would be supplied on request.

Seat No:

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Student's Signature

- Q.1**      a) What is regression? Discuss properties of regression coefficients. **4**
- b) Compute Karl Pearson's coefficient of correlation between Marks in **5**  
Statistics and Marks in Accountancy.

Marks in Accountancy	Marks in Statistics			
	20-25	25-30	30-35	Total
16-20	9	14	*	23
20-24	6	11	3	20
24-28	*	*	7	7
Total	15	25	10	50

- c) Find the two regression lines using the data given below: **4**  
 $n = 9, \bar{x} = 30, \bar{y} = 40,$

$$\sum (x - \bar{x})^2 = 120, \sum (y - \bar{y})^2 = 346, \sum (x - \bar{x})(y - \bar{y}) = 193$$

- Q.2** a) What is an index number? Discuss uses of Index Numbers. **4**
- b) From the data given below, calculate price index number using (i) Laspeyres's method (ii) Paasche's method and (iii) Fisher's Method **6**

Commodities	Base year		Current Year	
	Price	Quantity	Price	Quantity
A	40	16	80	12
B	100	20	120	10
C	80	30	100	30
D	40	40	40	50

- c) Construct a weighted index number of the following data using price relative method: **3**

Item	A	B	C	D	E
Base Year (Quantity)	24	14	8	4	8
Base Year (Price)	2	4	6	10	5
Current Year (Price)	3	5	9	12	5

- Q.3** a) Define binomial distribution. State its properties. **4**
- b) In an examination, minimum 40 marks for passing and 75 marks for distinction are required. In this examination 45% students passed and 9% obtained distinction. Find average marks and standard deviation of this distribution of marks. **5**
- c) If 3% electric bulbs manufactured by a company are defective, find the probability that in a sample of 100 bulbs exactly 5 bulbs are defective. ( $e^{-3} = 0.0498$ ) **3**

**Q.4** a) What is business forecasting? Explain its role in business. **5**

b) Fit a second-degree parabola  $y = a + bx + cx^2$  to the following data: **7**

Year (t)	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sales(Y)	2	6	7	8	10	11	11	10	9

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