

**B. P. COLLEGE OF BUSINESS ADMINISTRATION**

(Constituent college of Kadi Sarva Vishwa Vidhyalaya)

BBA (SEM – IV) Mid- Term Examination August 2011**SUB: Business Statistics-II (BBA 22)**

Date: /02/'13

Total marks: 40

Duration: 1.5Hrs

Instructions:

- All questions are compulsory.
- Figures to the right indicate full marks.
- Indicate clearly, the options you attempt along with its respective question number.

Q: 1

[A] What is 'Probability'? (03)

[B] Calculate the price index number and quantity index number with weighted aggregative method and taking weight as a value of the base year. (05)

Commodity	2001		2012	
	Quantity	Price	Quantity	Price
I	8	2	6	4
II	10	5	5	6
III	15	4	15	5
IV	20	2	25	2

Q: 2

[A] Give the correct answer from the following options for the each question: (04)

- (1) In family budget method, weight is always _____
I) p_0p_1 II) p_1q_0 III) p_0q_0
- (2) In mutually exclusive event, the $P(A \cap B) =$ _____
I) 0 II) 1 III) U
- (3) The $\sum p_1q_0 = 200$ and $\sum p_0q_1 = 100$ than the $L_{p_01} =$ _____
I) 200 II) 50 III) none of these
- (4) Two dice and a coin are tossed simultaneously, the possible outcomes will be _____
I) 24 II) 72 III) 36

[B] Short note: Types of Index number (04)

OR

[B] Four coins are tossed. What is the probability that I) 3 heads & 1 tail, II) 2 heads & 2 tails. (04)

Q: 3

[A] Calculate the Paasche's index number and show how Fisher's formula satisfies the time reversal test and factor reversal test: (05)

Commodity	1995		1985	
	Price	Quantity	Price	Quantity
A	14	30	12	20
B	20	15	14	13
C	15	20	10	12
D	4	10	6	8
E	6	5	8	5

[B] Two cards are drawn at random one after the other from the full pack of 52 cards. If they are drawn without replacement, find the probability that both are hearts. (03)

OR**[PTO]**

Q: 3

[A] Three dice are thrown simultaneously, find probability for getting total on upper side I) 16 II) at least 16. (05)

[B] Calculate the index number with the simple geometric mean from the following data: (03)

Commodity	q_0	p_0	p_1	q_1
A	20	12	14	30
B	13	14	20	15
C	12	10	15	20
D	8	6	4	10
E	5	8	6	5

Q: 4

[A] Calculate the weighted aggregative quantity index number with Laspeyres, Paasche and Fisher formula: (06)

Item	2009		2013	
	Price	Quantity	Price	Quantity
1_1	4	3	8	4
1_2	6	10	14	15
1_3	24	3	28	4

[B] Find the probability of 53 Thursdays in a leap year. (02)
OR

Q: 4

[A] If $P(A) = 2P(Z) = P(A/Z) = 2/5$, then find the probabilities that I) both happen II) At least one happens III) Neither of A and Z happen. (06)

[B] Define the 'Index Number'. (02)

Q: 5 Explain the following terms: (08)

- ❖ Random experiment
- ❖ Equally likely event
- ❖ Sample space
- ❖ Union of events

OR

Q: 5 Calculate the FBIN and CBIN from the below commodities: (08)

Commodity	2005	2006	2007	2008	2009
Pen	16	20	24	30	36
Pencil	8	10	16	20	24
Rubber	4	6	8	10	12

ALL THE BEST