



B. P. COLLEGE OF BUSINESS ADMINISTRATION
(A Constituent college of Kadi Sarva Vishwavidyalaya)

MID SEM Examination- March-2014

Date: 13/03/14
Roll No.....

BBA SEM – IV
SUB: Business Statistics-II (BBA22)

Total marks: 60
Duration: 3hr

- Q: 1** [A] What is a random experiment? Give its condition **(06)**
 [B] Calculate index number by Laspeyres, Pasche, Fisher & Marshall. **(06)**

Commodity	2001		2012	
	Quantity	Price	Quantity	Price
I	12	5	8	6
II	16	8	10	8
III	10	2	25	3
IV	25	4	30	5

- Q: 2** [A] Give the correct answer from the following options for the each question: **(06)**
- (1) In Cost of living 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) $\{ \}$ II) 1 III) no one
 - (3) Laspeyres's index number is also known as:
 a) Fixed base index. b) Given year method index. c) Base year method index.
 - (4) Find weighted index no., if $\sum iw = 8400$ and $\sum w = 21$:
 a) 40 b) 400 c) 4
 - (5) The consumer price index by simple aggregate method of the following, data $\sum p_0 = 285$, $\sum p_1 = 485$ is:
 a) 170.18 b) 1.70175 c) 112.
 - (6) Fisher's index is the ----- mean of the Paasche's and Laspeyres's index:
 a) Arithmetic b) Harmonic c) Geometric
- [B] Explain Addition Theorem of Probability **(06)**

OR

- [B] three coins are thrown simultaneously find the probability of getting (1) two heads & one tail
 (2) 3 heads **(06)**

- Q: 3** [A] using three yearly moving averages determine trend for the following time series . Also find STV **(06)**

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Profit	51	66	61	92	100	119	110	120	150	200	218	155	202	240

- [B] Two cards are drawn from a well shuffled pack of 52 cards. Find the probability that (1) both are king
 (2) both are club **(06)**

OR

- Q: 3**[A] Two dice are thrown simultaneously, find probability of obtaining (1) Total 10 (2) at least total 9 **(06)**

[B] fit a straight line trend to the following data and from it estimate the production of 2013 (06)

Year	2007	2008	2009	2010	2011
Production	40	50	62	58	60

Q: 4 [A] using four yearly moving averages determine trend for the following time series. Also find STV (06)

Year	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Profit	500	356	430	445	389	381	326	417	411	339

[B] What is time series? Discuss the various components of time series (06)

OR

Q: 4 [A] find out seasonal variation from the following data (08)

Year	Winter	Summer	Monsoon
2007	40	50	35
2008	45	55	35
2009	42	60	40
2010	55	55	50
2011	60	70	45

[B] Define the 'Index Number'.. explain its uses (04)

Q: 5 [A] A population is divided in three strata as follows (06)

Stratum	Nh	Sh
I	400	10
II	200	8
III	400	6

If 10% sample is to taken find (1) $v(\bar{y}_{st})$ prop (2) $v(\bar{y}_{st})$ opt

[B]. What is stratified sampling ? give its advantages nad limitations. (06)

OR

Q: 5 [A] A group is divided into two strata. The information regarding these is as follows (06)

Stratum	Nh	mean	variance
I	40	52	16
II	60	48	40

Find the mean of the entire group. If 10% sample is taken from each stratum.

Find the variance of stratified mean

[B]. what is sampling? Explain the characteristics of a good sample (06)