



UA-0657

Second Year B. Com. (Honours) Examination
February/March – 2012
Business Statistics

Time : Hours]

[Total Marks : 70

Instructions :

(1)

नीचे दशांशवले निशानीवाणी विगतो उत्तरवडी पर अवश्य क्षभवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
Second Year B. Com. (Honours)

Name of the Subject :
Business Statistics

Subject Code No. : **0 6 5 7** Section No. (1, 2,.....) : **NIL**

Seat No. :

Student's Signature

- (2) Attempt every question.
(3) The figures to the **right** indicate full marks of the questions.
(4) Statistical tables and graph papers would be supplied on request.

- 1 (a) What is data ? What are the measures of dispersion ? 4
Which is the best measure of central tendency ? Why ?
(b) Obtain Karl Pearson's co-efficient of skewness from 6
the following data :

Class :	1	3	7	10-18	18-28	28-50	50-100
Frequency :	3	5	6	6	15	13	2

- 2 (a) What is time series ? What are the component of time 5
series ? Obtain 3 years moving average and short term
variations for the following data :

Year :	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sales in ('000) :	12	11	10	8	12	13	17	19	14	13	12

- (b) Obtain linear trend equation by taking 2001 as 5
origin year. Find trend values. Also estimate profit for
the year 2010 :

Year :	2001	2002	2003	2004	2005	2006
Profit (in '000) :	5	8	10	17	20	30

- 3 (a) Explain the following terms : 3
Mutually exclusive events, equally likely events, independent event.
- (b) The probability of winning a formula one motor car race of three Indians are respectively 0.5, 0.3 and 0.2. Obtain the probability that at the most one Indian would win the race. 4
- (c) There are three coins in a bag. There are heads on both the side of first coin, second coin is unbiased and the probability of getting tail on third coin is $\frac{2}{3}$. One coin is selected at random from the bag and that selected coin is tossed, then find the probability of getting head. 3
- 4 (a) In which condition Binomial distribution follows normal distribution ? State the properties of normal distribution. 4
- (b) The mean of binomial distribution is 5. 3
If $10 P(x = 0) = P(x = 1)$, then find the value of P.
- (c) For a Poisson distribution if S.D. = 0.9, then obtain 3
 $P[1.7 < x < 2.5]$
- $$e^{-0.81} = 0.4449$$
- $$e^{-0.9} = 0.4066$$
- 5 (a) What is Index Number ? Why Fisher's Index Number is called Ideal Index Number ? 4
- (b) Calculate Fisher's I.N. for the year 2012 by taking 2006 as a base year : 6

Commodity	Unit	Price (Rs.)		Quantity	
		2006	2012	2006	2012
A	20 Kg.	80	120	5 Kg.	7 Kg.
B	Quintal	500	700	10 Kg.	15 Kg.
C	K.g.	10	14	1200 gram	2000 gram
D	Dozen	36	60	20 item	25 item

- 6 (a) What is correlation ? Write the properties of regression co-efficients. 3
- (b) Calculate co-efficient of correlation for the following data : 4

x	15	25	35	45	55
y	50	40	30	20	10
f	1	6	7	4	2

- (c) Estimate the value of y when x = 10 from the following information : 3

	x	y	$r = 0.9$
Mean	7.5	12.5	
S.D.	4.5	9.0	

- 7 (a) What do you mean by forecasting ? Explain the types of forecasting. 3
- (b) Calculate the seasonal variations for the following prices of a commodity : 7

Year	Season		
	Winter	Summer	Monsoon
2009	21	18	30
2010	24	21	27
2011	27	30	33