[A-1] SEAT No._____ No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY

BBA SEMESTER IV EXAMINATIONS (2010 BATCH) 2019

SUBJECT: STATISTICS FOR MANAGEMENT - II (UM04CBBA04/09)

DATE: 11/04/2019, Thursday **TIME: 10.00 AM TO 12 NOON**

NOTE: (I) Figures to the right indicate marks
(ii)Statistical tables will be provided on request
(iii)Use of simple calculators is allowed

Q 1(a) What is sampling? Give characteristics of an ideal sample 7
(b) Explain meaning, advantages, limitations and suitability of (i) simple random sampling and (ii) stratified random sampling 8

OR

Q 1(a) Explain with illustration the meaning of (i) Sample (ii) Population (iii) Statistics and (iv) Parameters 7
(b) Write note on: (i) sampling Error and (ii) Population Survey 8

Q 2(a) Explain the procedure of testing a hypothesis 7
(b) A sample of size 400 was drawn and the sample mean was found to be 99.Test at 5 % level of significance, whether this sample could have come from a normal population with mean 100 and variance 64? 8

OR

Q 2(a) The mean of a random sample of 1000 units is 17.6 and the mean of another random sample of 800 units is 18.Can it be concluded at 5% level that both the samples come from the same population with standard deviation of 2.6. 7
(b) The information regarding marks of boys and girls of a college is given below Test at 5% level of significance, whether the difference in standard deviations is significant 8

Sample	Mean	Standard deviation	Sample size
Boys	83	10	121
Girls	81	12	81

Q 3(a) Write note on (i) Degree of freedom (ii) Small sample tests 7

(b) A sample of 4 observations from a normal population gave the following results: $\sum x = 7$, $\sum x^2 = 15$ Test the hypothesis at 5 % level of significance that the mean of the population is 2 8

OR

Q 3(a) The sales data of an item in six shops before and after a special promotion campaign are as under. Can the campaign be judge as success at 5 % level of significance? 7

Shops	A	B	C	D	E	F
Before campaign	53	28	32	48	50	42
After campaign	58	32	30	50	56	45

(P.T.O.)

(b) For two independent samples the following information is available
Test the hypothesis at 5 % level of significance that population means are equal 8

Sample	Size	Mean	Standard Deviation
I	10	15	3.5
II	15	16.5	4.5

Q 4(a) Write note on 'Applications, uses and limitations of Chi squares test' 7

(b) The following samples are drawn from two normal populations. Test the hypothesis at 5 % level of significance that the population variances are equal. 8

Sample I	08	10	14	10	13	-	-
Sample II	12	15	11	16	14	14	16

OR

Q 4(a) In a certain sample of 2000 families, 1400 families are consumers of tea. Out of 1800 Hindu families 1236 families consume tea. Using Chi square test at 5 % level of significance state whether any significant difference between consumption of tea among Hindu and non- Hindu families 7

(b) Set up a two way ANOVA table for the following data 8

Field	Treatment			
	A	B	C	D
P	45	40	38	37
Q	43	41	45	38
R	39	39	41	41

(Use coding method subtracting 40 from the given numbers)

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