Sardar Patel University, Vallabh Vadhyanagar
External Examination 2019
S.Y.B.B.A. (GEN) – SEM – IV
UM04CBBA06 – Statistics for Management - II

Date : 15-04-2019   Day : Monday Time: 10:00 AM TO 12:00 PM   Total Marks: 60

Q-1	(a)	Give the difference between Sample Survey and Population Survey.	[07]
	(b)	Write short note on : (1) Cluster Sampling (2) Simple Random Sampling	[08]

OR

Q-1	(a)	Write the advantages and disadvantages of stratified random sampling.	[07]
	(b)	Write the characteristics of a good sample and write advantages of sampling.	[08]

Q-2	(a)	A random sample of 400 items gave mean 4.45 and variance 4. Can the sample be regarded as drawn from a normal population with mean 4?	[07]
	(b)	The average daily wage of 1000 workers of a factory A is Rs. 47 with S.D. of Rs. 28. The average daily wage of 1500 workers of a factory B is Rs. 49 with S.D. of Rs. 40. Can it be said that the average daily wage of factory B is more than the average daily wage of factory A?	[08]

OR

Q-2	(a)	The information regarding marks of boys and girls of a college is given below.	[07]

Sample	Mean	SD	Sample Size
Boys	83	10	121
Girls	81	12	81

Test whether the difference in standard deviations is significant.

	(b)	The average life of 150 electric bulbs of a company A is 1400 hours with a S.D. of 120 hours, while the average life of 200 electric bulbs of company B is 1200 hours with a S.D. of 80 hours. Is the difference between the average lives of the bulbs significant?	[08]

Q-3	(a)	Ten individuals are chosen at random from a population and their heights are found to be in inches as 63, 63, 66, 67, 68, 69, 70, 70, 71, 71 In the light of these data, test the hypothesis that the mean height of the population is 66.	[07]
	(b)	Two horses A and B were tested for running a particular truck. The time in seconds taken by them are given below :	[08]

Horse A	28	30	32	33	33	29	34
Horse B	29	30	30	24	27	29	

Can it be concluded that horse A is faster than horse B?

OR

① (P.T.O)

Q-3 (a) For two samples, the following information is available. Test the hypothesis that population means are equal.   [07]

Sample	Size	Mean	SD
I	10	15	3.5
II	12	16.5	4.5

(b) The sales data of an item in six shops before and after advertisement are as under.   [08]

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

Can the advertisement be judged as success? Test at 5% level of significance.

Q-4 (a) The following information is obtained for two samples drawn from two normal populations.   [07]

Sample	Size	Mean	SD
I	10	12	3.162
II	12	15	5.115

Test the hypothesis that the population variances are equal.

(b) The three samples given below are obtained from normal populations with equal variances. Test the hypothesis at 5% level that population means are equal by performing one-way ANOVA.   [08]

Sample I	Sample II	Sample III
8	7	12
10	5	9
7	10	13
14	9	12
11	9	14

OR

Q-4 (a) The result in exam of a sample of 100 students is given below.   [07]

	1st Class	2nd Class	3rd Class	Total
Boys	10	28	12	50
Girls	20	22	08	50
Total	30	50	20	100

Can it be said that the performance in the exam depends upon sex.

(b) Perform a two-way ANOVA on the data given below.   [08]

		Treatment I		
		I	II	III
Treatment II	I	30	26	38
	II	24	29	28
	III	33	24	35
	IV	36	31	30
	V	27	35	33

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