

Reg. No. :

Name :

V Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M./B.B.M./B.C.A./B.S.W./
 B.A. Afsal Ul Ulama Degree (CCSS – Reg./Supple./Improv.)
 Examination, November 2012
CORE COURSE IN STATISTICS
5B07 STA : Statistics Using R

Time: 3 Hours

Max. Weightage : 30

PART – A

Answer **any ten** questions. (Weightage **1 each**).

1. List functions to determine, number of elements, cumulative sum and variance of data X.
2. If A and B are matrices of same order, what will give $A * B$?
3. How do you determine 3rd quartile of $N(10, 1.8)$?
4. What is the scope of dpois () ?
5. If p-value is 0.3051 is an output, what will be your inference ?

Describe the outputs of following R-commands.

6. Seq (5, 29, length = 7)
7. qchisq (0.95, 2)
8. $xt \leftarrow \text{table}(x)$; which $(xt == \max(xt))$
9. aov (x ~ a + b + a : b).
10. Curve (dnorm (x), from = - 3, to = 3)
11. Sample (1 : 6, 10, replace = T). (10×1=10)

P.T.O.



PART – B

Answer **any six** questions. (Weightage **2 each**)

12. Briefly describe history of development of 'R'.
13. Explain some methods of data input in R.
14. Distinguish between the functions plot () and curve ().
15. What will be output of the following R-program $> X \leftarrow 0:12$
 $> Y \leftarrow d \text{ binom} (X, \text{size} = 12, \text{Prob} = 0.32)$
 $> \text{plot} (X, Y, \text{type} = "h", \text{lwd} = 30, \text{ylab} = "p(x)", \text{lend} = "square")$.
16. Describe the procedure for import a data file from MS-Excel to R.
17. What a R-program to draw greater than ogive for the following data.

Weight in kgs :	40 – 49	50 – 59	60 – 69	70 – 79	80 – 89
No. of persons :	23	64	152	77	36
18. If X is a binomial variable with parameters $n = 12$ and $p = 0.2$, write R-program to obtain a table of binomial probabilities.
19. Write down R-command to determine correlation coefficient, regression lines X on Y an Y on X for the following data.

X :	28	26	32	31	37	30	36	34	39	40
Y :	75	74	82	81	90	88	85	92	92	95
20. Describe the program to test the equality of variances in R. (6×2=12)

PART – C

Answer **any two** questions. (Weightage **4 each**)

21. Weight measured for 20 persons in a study is 73, 48, 53, 65, 70, 58, 64, 89, 96, 57, 81, 64, 76, 84, 73, 59, 61, 73, 92, 67 (kgs). Prepare a R-program to (a) determine the mean, median and variance (b) plot box and whiskar plot.
22. Explain Monte Carlo methods for hypothesis test in R. Give an example for any one of them.
23. The random variable X follow a hypergeometric distribution with parameters $N = 15, K = 5, n = 3$. Write down R-program to obtain cumulative probability distribution and its graph.
24. Prepare R-program for 'Regression analysis'. List the additional informations obtain when summary () function is used. (2×4=8)