

Vinayaka Mission University
COURSE CODE - 2040601
PG DEGREE EXAMINATION – FEB 2012
MCOM (ALL BRANCHES)
ADVANCED STATISTICS

(For Candidate Admitted from Calendar 2007 onwards)

Time: 3 Hrs.

Max. Marks: 75

PART – A

Answer All the Questions:

10 x 2 = 20

1. What do you mean by probability?
2. Define relative probability.
3. Define binomial distribution.
4. Mention the difference between parameter and statistics.
5. Write short notes on H-test.
6. Define standard error.
7. Define type-I and type-II error.
8. Write short notes on Non-parametric test.
9. What do you mean by correlation?
10. What is sign test?

PART – B

Answer All the Questions:

5 x 5 = 25

11. (a) Explain the concept of
 - i. Random Experiment
 - ii. Event
 - iii. Trial
 - iv. Probability of an Event.

OR

(b) Explain the Baye's theorem.

12. (a) Explain the difference methods of sampling.

OR

(b) Explain the characteristics of good estimators.

13. (a) Explain the following terms.
 - i. Error of first and second kind
 - ii. Level of significance

OR

(b) Write down the application of Chi-square test.

14. (a) Discuss the application of F-test in testing if two-variance are homogenous.

OR

(b) Write down the assumption of the analysis of variance (ANOVA).

15. (a) Write down the formula.
 - i. Mann-whitney "U" test.
 - ii. Kruskal-walls-H-test.

OR

(b) Explain the simple and composite hypothesis.

PART – C

Answer All the Questions:

2 x 15 = 30

16. Two cards drawn at random from a well-shuffled pack of 52 cards.

- i. Show that chance of drawing two aces is $1/221$.
- ii. All are Diamond
- iii. There are two spades and two hearts.

17. Define:

- i. Additional theorem of probability.
- ii. Multiplication theorem of probability.

18. What is Chi-square test? Explain its significance in statistical analysis.

19. A test was given to five students taken at random from the fifth class of three schools of a town. The individuals score are:

School I	9	7	6	5	8
School II	7	4	5	4	5
School III	6	5	6	7	6

Carry out the analysis of variance and state your conclusion.

20. The nicotine contents of two brands of cigarette measured in milligrams, was found to be as follows:

Brand A:	2.1	4.0	6.3	5.4	4.8	3.7	6.1	3.3
Brand B:	4.1	0.6	3.1	2.5	4.0	6.2	1.6	2.2

Test the Mann-whitney “U” test.