

**VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM
(Deemed to be University)**

**Pharm.D / Pharm.D (POST BACCALAUREATE) DEGREE
EXAMINATION - July 2019
Fourth Year**

BIostatistics AND RESEARCH METHODOLOGY

Time: Three hours

Maximum: 70 marks

I. Write essays on any **TWO** questions: (2 x15 = 30)

1. Write on the merits, demerits and applications of various types of clinical study designs.
2. Calculate the correlation co efficient for the following values of Apgar score and birth weight (kg) of 10 infants and interpret.

Apgar Score	3	2	3	4	5	2	3	5	4	5
Birth Weight	3.6	2.9	3.2	3.8	3.9	3	3.5	3.8	3.9	3.9

3. Elaborate on determination of sample size for simple comparative experiments and power of study.

II. Write short answers on any **SIX** questions: (6 x 5 = 30)

4. Prevalence and incidence rate its uses.
5. Types of errors.
6. Computer uses in hospital pharmacy.
7. Explain student 't' test with examples.
8. Write about incidence and prevalence methods in epidemiology.
9. Discuss in detail about observational studies.
10. Explain Wilcoxon rank sum test with suitable examples.
11. Write short note on report writing and presentation of data with example.

III. Write short notes on any **FIVE** question: (5 x 2 = 10)

12. Define random variable.
13. What is histogram?
14. What is meant by chi- square test?
15. What is relative risk?
16. Define alternate hypothesis.
17. Define standard error of mean.