**M. Pharm 3rd Semester Examination**

**Subject- Research Methodology & Biostatistics (MRM301T)**

 **Full mark- 75 Time – 3 hours**

 **Answer any five questions (15x5=75)**

1. Describe research methodology any types of studies.

2. Setup an analysis of variance table for the following per acre production data for three varieties of wheat, each grown on 4 plots and state if the variety difference are significant.

|  |  |
| --- | --- |
| Plot of Land | Per acre Production data |
| Variety of Rice |
| A | B | C |
| 1 | 6 | 5 | 5 |
| 2 | 7 | 5 | 4 |
| 3 | 3 | 3 | 3 |
| 4 | 8 | 7 | 4 |

3.Find the regression line of the following sample.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Voltage x(Volts) | 30 | 30 | 60 | 60 | 90 | 90 |
| Current y(amperes) | 3.1 | 3.2 | 6.3 | 6.5 | 10.0 | 10.1 |

4. Discuss briefly medical research and medical ethics.

5. Describe briefly CPCSEA guidelines for laboratory animal facility and transport of lab animal.

6. Describe briefly the declaration of Helsinki and its additional principles for medical research combined with medical care.

7. Write short notes on any three (3x5=15)

 (a) Blinding techniques

 (b) Record keeping

 (c) Conflicts of interests

 (d) Euthanasia

 (e) Vender relationships