**RESEARCH METHODOLOGY –DIPLOMA(2016)**

**Total Hours:30**

**The objectives of the courses :**

* 1.To equip students about the tools which can be adopted in good scientific

 research.

* 2. To train students to do review the literature survey effectively
* 3.To demonstrate students to write a good report of the work they did.

Induction – 1 hr; Examination 2 hrs(Internal and External); Students Activities -5 hrs like seminar, Debate etc.; Evaluation and Certificate Distribution – 2 hrs

**Unit 1--Data collection and sources of data 5hrs**

Primary data – Methods of collecting primary data—secondary data—sources—precautions to be taken—Experiments – research design in the case of hypothesis testing research studies—the principle of replication—the principle of randomnisation—the principle of local control.

**Unit 2-- Kinds of experimental designs and control 5hrs.**

Informal experimental designs—Before and after without control designs—After only with control design—before and after with control design Formal experimental design—Completely randomized block design—latin square design—Factorial designs. Observation—characteristics.

**Unit 3 -- Statistical analysis 6hrs.**

Probanility----terms and events---addition and multiplication theorem of probability Probability distribution—Binomial distribution—poisson distribution—normal distribution

**Unit 4 --Testing of hypothesis 4hrs.**

The standard error of mean—test of significance for small samples—chi square test—the chi square distribution—conditions of applying and uses of chi square tests

**REFERENCES**

Paneerselvam R., Research methodology,Prentice hall of India, New Delhi,2004.

Kothari Cr,Research Methodology- Methods and techniques, New Wiley eastern Ltd., Delhi,2009.

Kothari CR and Gaurav Garg, Research Methodology-Methods and techniques, New age international publishers,New Delhi-110002.

**The Exprected outcomes of the course are:-**

• They got good training methods and techniques in research, testing of hypothesis, statistical analysis, experimental designs and control etc.

• Enabled the students to do and report their B.Sc. project effectively and tension free in time.