

Tantia University

Sri Ganganagar

Ph.D. Course Work Syllabus (2016-17)

Botany

Maximum Marks-100

Minimum Marks-55

PART-A

Part A- 40 Marks

Total Credits = 4

Total Hours=4x45= 180 Hours

Introduction to Research

Introduction of Research, Research methodology, Defining Research problem and formulation of hypothesis, research design, sampling design, measuring and scaling techniques, methods of data collection.

Pure and Applied Research, Exploring or Formulative Research, Descriptive Research, Diagnostic Research/Study, Evaluation Research/Studies, Action Research, Experimental Research, Historical Research, Surveys, Case Study, Field Studies
Research Ethics: Characteristics and format of research paper, article, thesis writing, review of Related Literature, Purpose of the review, Identification of the related literature. Organizing the related literature.

Statistics

Concept of statistics, relevance in research, parametric and non-parametric data; graphical representation of data: histogram, frequency polygon, ogive and pie chart; Measures of Central Tendency, Correlation, t-test chi square test

Computer Application

Basic and fundamental knowledge of Computer and its Applications. Introduction, Application Area, Operating System, Windows, Office, Internet.

PART-B

Part B- 60 Marks (Subject based)

Total Credits = 6

Total Hours=6x45= 270 Hours

1. Microscopy- Light ,dark field, phase contrast, fluroscent, transmission and scanning electron microscopy.
2. Photography- Micro,Macro, time lapse and video photography.
3. Molecular Biological techniques- Southern, northenand western blotting, PCR, RELP and RAPD, electrophoresis.
4. Chromatography- Paper, TLC, HPLC,GLC.

5. Histological, Histo-chemical and cytological techniques.
6. Herbarium techniques and charaterstic survey.
7. Plant tissue culture technique.
8. Colorimetry and spectro-photometry.
9. Microbial culture techniques.