

Agriculture Science and Technology
Practical Syllabus
Std - XII

List of Practicals

1. Calculation of plant population for given area.
2. Calculation of actual quantity of fertilizers for different crops and calculation of unit value (cost of fertilizer per kg)
3. Practicing different methods of fertilizer application for wheat, paddy and soybean.
4. Practicing layout of sugarcane planting and set treatment.
5. Practicing asexual methods of propagation viz: cutting, layering, budding and grafting.
6. Emasculation and pollination in cotton.
7. Preparation of cropping scheme and calendar of operations.
8. Practicing various nursery operations.
9. Evaluation of seedlings after germination and calculation of seed germination percentage.
10. Seed treatment with chemicals and biofertilizers.
11. Use of computer, internet and smart phones for collection and communication of agricultural information.
12. Preparation of mushroom pickle.
13. Practicing various green house operations.
14. Preparation of jam, sauce and pickles.
15. Practicing post harvest operations in handling of agricultural produce.
16. Study of cost of cultivation of some crops.
17. Awareness in purchasing, storage and application of agricultural inputs.
18. Preparation of crop cafeteria and writing of reports in journal.

Visits

- At least four visits from the following list should be conducted.
 - Separate section of visit report should be written in the journal.
1. Visit to tissue culture unit.
 2. Visit to hightech nursery.
 3. Visit to seed processing plant/seed testing laboratory.
 4. Visit to polyhouse.
 5. Visit to Agrotourism centre.
 6. Visit to organic farming unit.
 7. Visit to agriculture produce market committee (APMC).
 8. Visit to allied agriculture enterprises (Sugar factory, Jaggery plant, *Dal* mill, Oil extraction plant, Processing industry).

Project work

Complete any one of the following projects.

1. Preparation of seed album.
2. Collection of farm records.
3. Preparation of seedling for transplanting.
4. Collection of mushroom samples.
5. Preparation of album of diseased plant parts.

Agriculture Science and Technology
Specimen question paper (Practical) std - XII

Time - 3 hrs

Marks - 30

Q. 1 Identification

6

A. Identify

B. Subquestion

Note : In all 6 Specimens should be kept, each carrying 1 mark (1/2 mark for identification and 1/2 mark for correct answer of subquestion)

Q. 2 Solve any two of the following.

6

A. Mathematical problem from practical syllabus

(viz. plant population/seed germination percentage)

B. Mathematical problem from practical syllabus

(viz. quantity of fertilizers/unit value of fertilizers)

C. Theoretical question from practical syllabus.

Q. 3 Practical exercise (any one)

6

A. Layering/budding/grafting

B. Emasculation and pollination in cotton

C. Fertilizer application

D. Evaluation of seedlings after germination

E. Use of computer or smart phone and internet.

F. Layout of sugarcane planting or set treatment

G. Seed treatments with chemicals and bio-fertilizers

Q. 4 A. Viva-voce - 02

6

B. Journal - 04

Q. 5 A. Project report - 03

6

B. Visit report - 03

Any one report on project and the visit actually given by the student during the academic year.

List of Reference Books

1. Introduction to Agronomy and Soil and Water Management - Dr. V. G. Vidya, K. R. Sahasrabuddhe, Continental Prakashan, Pune - 411030
2. Crop Production and Field Experimentation - Dr. V. G. Vidya, K. R. Shasrabuddhe, Dr. V. S. Khuspe. continental Prakashan, Pune - 411030
3. Agronomy- S. C. Panda, Agrobios (India) Jodhpur - 342002.
4. Principles of Agronomy - J. Yellamanda Reddy, G. H. Sankara Reddy - Kalyani Publishers.
5. Principles of Crop Production, S. Reddy, Kalyani Publishers, Ludhiyana.
6. Hand Book of Agriculture, I. C. A. R., New Delhi.
7. Principles of Agriculture, Ashok S. Jadhav, Sandip K. Raskar, Raj laxmi Prakashan.
8. Plant Breeding - Principles and Methods - 2005, B. D. Singh, Kalyani Publishers.
9. Agronomy of Field Crops, S. R. Reddy, Kalyani Publishers, Ludhiyana.
10. Seed Technology, Ratan Lal Agrawal, Oxford and IBH Publishing Co-op. Pvt.Ltd., Kolkata.
11. Seed Technology - Dr. Harpal Singh, Tomar, Aman Publishing House, Meerut.
12. Plant Tissue Culture - M. K. Rajdan.
13. Plant Tissue Culture - M. K. Singh, Oxford and IBH Publishing Co. Pvt.Ltd.
14. Seed Science and Technology - A. K. Joshi, B. D. Singh, Kalyani Publishers.
15. Principles of Agronomy, S. R. Reddy, Kalyani Publishers.
16. Fundamentals of Agronomy, Dr. Gopal Chandra De, Oxford and IBH Publishing Company Pvt. Ltd.
17. Seed Science and Technology, Subir Sen, Nabinananda Ghosh, kalyani Publishers.
18. Text Book of Soil Science - A Textbook - V. D. Patil, C. V. Mali, Phoneix Publications Parbhani.
19. Fundamentals of Soil Science, Dr. J. A. Daji, Revised by Dr. J. R. Kadam, N. D. Patil, Media Promoters and Publisher Pvt. Ltd., Mumbai
20. Handbook of Horticulture - I. C. A. R., New Delhi.
21. Manures and Fertilizers - K. S. Yawalar, J. P. Agarwal, S. Bokde, Agri-Horticultural Publishing House, Nagpur.
22. Commercial Production of Horticultural Crops - H. N. Samaddar, Naya Udyoy, Kolkata.
23. Basic Horticulture - Jitendra Singh, Kalyani Publishers, Ludhiyana.
24. Vegetable Crops- T. K. Bose, K. Kabir et. al., Naya Prokash Kolkata.
25. Introductory Ornamental Horticulture - J. S. Arora, Kalyani Publishers.
26. A Class Book of Botany - A. C. Datta, Oxford Publication.
27. Agriculture Science and Technology, Std XI and Std XII, Maharashtra State Board Secondary and Higher Secondary Education, Pune.
28. Textbook of Crop Production Std XI and Std XII - Maharashtra State Board of Secondary and Higher Secondary Education, Pune
29. Hybrid seed production in cotton- CICR Techinal Bulletin No. 35 Nagpur By B. M. Khadi, V. Santhy.
30. Agricultural marketing in India - S.S. Acharya, N.L. Agarwal, oxford and IBH Publishing co. Pvt. Ltd. New Delhi
31. Handbook on Mushrooms - Fourth edition, Nita Bahl oxford and IBH publishing co. Pvt. Ltd. New Delhi.
32. Preservation of Fruits and Vegetables, Girdhari Lal, G. Siddappa and G.L. Tandon, Pub and information division, ICAR, New Delhi.
33. Seed processing and handling - Charles E.Vaughan,Bill R.Gregg and James C.Delouche, Mississippi state university, state college Mississippi
34. Planning your seed plant layout - Bill G Gregg
35. Mechanical seed cleaning and handling - Agriculture handbook no.354 United States department of Agriculture in co-operation with Oregon Agricultural experiment station.
36. Mushroom Cultivation, marketing and consumption-Manjit Singh, Bhuvnesh Vijay,Shweta Kamal and G.C.Wakchaure. Directorate of mushroom Research ICAR, Chambaghat, Solan
37. Textbook of Agriculture Science and Technology Std. XI, Maharashtra State Bureau of Textbook Production and Curriculum Research, Pune.