BHARATHIAR UNIVERSITY, COIMBATORE.
SYLLABUS FOR ALLIED BOTANY
PAPER – I
(For the candidates admitted during the academic year 2007–08 and onwards)

Unit I : Thallophyta : Structure, Reproduction and life cycle of the following Clamydomonas, Dictyota, Spirulina, Reproduction and life cycle of the following Saccharomyces and Agaricus. Symptoms, causative organism and control measure of Red rot of sugarcane

Unit II : Bryophyta, Pteridophyta and Gymnosperms – General characters – Structure, reproduction and life cycle of Funaria, Lycopodium, Cycas (Development details are not required)

Unit III : Plant Taxonomy : Outline of Bentham and Hookers system of classification – study of the following families with their economic importance – Annonaceae, Cucurbitaceae, Apocynaceae, Euphorbiaceae and Poaceae.

Unit IV : Economic Botany : Coir Industry – Coir Production Uses. Sugar industry, Extraction of juice, clarification, concentration and crystallization, Biodiesel – Cultivation of Jatropha extraction of oil and production of biodiesel, cobargas Biocontrol agents – Neem


Books for Reference :
Outlines of Botany – R.V. Narayanaswami & K.N. Rao
Text Book of Botany – Muneswaran.
Botany for Degree Students – Algae B.R. Vashishta – S. Chand & Co
Botany for Degree Students – Fungi B.R. Vashishta – S. Chand & Co
Botany for Degree Students – Bryophyta B.R. Vashishta – S. Chand & Co
Botany for Degree Students – Pteridophyta P.C. Vashishta – S. Chand & Co
Text Book of Systematic Botany – R.K. Gupta, ATMP RAM & Sons, Delhi
Elements of Biotechnology – P.K. Gupta, Rastogi & Company,
Allied Botany PAPER – II


Unit II : Ecology – Adaptations in Hydrophytes, Xerophytes, Halophytes, Types of Forest in Tamil Nadu (occurrence, climatic conditions, nature of soil and plants present in the forest) Agroforestry. Afforestation and Reforestation, Soil erosion – types, methods to prevent soil erosion.

Unit III : Physiology – Absorption of water – definitions of diffusion, Osmosis, DPD, Imbibition, Active and Passive absorption of water. Ascent of Sap and Transpiration – Structure of Stoma, Mechanism (starch sugar hypothesis, potassium ion up take, hormonal level) and factors. Photosynthesis, light and dark reactions (Calvin cycle), factors. Phytohormones – Auxin, and Cytokinin.


Books for Reference :

Text book of Botany – Muneswaran
Plant physiology – V. Verma, EMKAY publication, Delhi
Sixth revised edition
Allied Botany Practical

I. Study of the following genera through slides and specimen
   2. Funaria, Adiantum, Cycas
   4. Hydrophyte, Xerophyte, Halophyte

II. Identification and technical description of the plants belonging to families Annonaceae, Cucurbitaceae, Apocynaceae, Euphorbiaceae and Poaceae.

III. Sectioning of the following materials
    Adiantum rachis, Cycas leaf let
    Young Dicot Stem, monocot stem,
    Dicot stem with normal secondary thickening

IV Experiments to demonstrate
   1. Potato Osmoscope
   2. Ganong’s potometer
   3. Transpiration Pull
   4. Evolution of oxygen during photosynthesis
   5. Ganong’s light screen experiment
   6. Mohl’s Experiment

V. Study of the following with the specimen or chart
   1. Cutting
   2. Simple Layering
   3. Grafting – approach
   4. Ginger, vasaka, curcuma, neem
   5. Vinca, Aloe
Allied Botany Practical
Allied Botany Paper I and II

Time : 3 Hrs                                                                                  Max. Marks : 40

1. Refer specimen A and B to the respective families giving reasons 2x2=4
2. Describe the specimen ‘C’ technically. Draw the floral diagrams 3
3. Comment ‘D’ with its medicinal value.
   (Specimen to be given from fifth unit of botany paper II) 2
4. Cut transverse section of E and F. Draw labeled sketches and identify giving reasons. Leave the preparation for valuation. 2x7=14
   [E is either Adiantum rachis, Cycas leaflet]
   [F is either Young Dicot stem, monocot stem, monocot root or dicot stem with normal secondary thickening]
5. Draw labeled sketches identify and giving reasons G, H, I, J, and K. 5x2=10
   [G from Algae or Fungi]
   [H from Pathology or Bryophyte]
   [I from Pteridophyte or Gymnosperm]
   [J from Horticulture of Tissues]
   [K from Xerophyte or Hydrophyte or Halophyte]
6. Comment on the setup L. Draw labeled sketch. 3

Record 4

Total Marks 40