



# H. D. Jain College, Ara

## (A Constituent Unit of V. K. S. U, Ara)



### 4 Years Bachelor of Arts B.A. (Hons.) in Botany under CBCS

#### POS (Major Courses)

S.No	UG Semester	Course	POS
1.	I	MJC-1 (Psychology and Microbiology)	i) Classification of Plant kingdom and their importance of viruses and bacteria ii) Algae iii) Virus iv) Bacteria
2.	II	MJC-2 (Bio molecules and Cell Biology)	i) Biomolecules ii) Enzymes iii) Cell iv) Cell Cycle
3.	III	MJC-3 (Mycology and Phytopathology)	i) Fungi ii) Structure and life history of the following genera : Synchytrium, Albugo, Pezia, Puccinia and Alternaria iii) Phytopathology iv) Etiology, symptoms and control of the diseases.
4	III	MJC-4 (Archegoniate)	i) Distinguish features of archegoniates; Alteration of generation ii) Bryophytes iii) Pteridophytes iv) Gymnosperm
5.	IV	MJC-5 (Morphology and Anatomy)	i) Brief account of inflorescence, flowers, fruits and seeds. ii) Meristem and permanent tissue; Root and shoot meristem, simple and complex tissue. Mechanical Tissues - Structure, distribution and function. iii) Normal secondary growth; Anomalous secondary growth in Tinospora, Bignonia, Boerhaavia, and Dracaena. iv) Organization of tissue in relation to environment: Hydrophytes, Xerophytes, Halophytes and Epiphytes Periderm - Origin, structure and function.
6	IV	MJC-6 (Economic Botany)	i) Botanical characteristics, cultivation and uses of Cereals (Wheat, Maize and Rice), Legumes (Gram, Garden pea), Oil and Fats (Mustard and Groundnut) yielding plants. ii) Botanical characteristics, cultivation and uses of Spices (Coriander, Chilli and Turmeric), Fruits and Vegetables (Mango, Litchi, Cauliflower, Brinjal) iii) Botanical characteristics, cultivation, processing and use of Beverages (Tea and Coffee), Narcotics, Timber and Fiber yielding plant (silk, Teak, cotton, Jute), Rubber and Gum yielding plants iv) Botanical characteristics, cultivation and uses of ten (10) Medical plants of Bihar; Sugar (Sugarcane) and Starch (Potato) yielding plants.
7.	IV	MJC-7 (Genetics)	i) Mendelian inheritance



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			ii) Linkage and crossing over iii) Mutations iv) Choromosomes
8.	V	MJC-8 (Molecular Biology)	i) Nucelic acids ii) Central dogma, Transcription and Translation in prokaryotes and eukaryotes iii) Gene regulation in prokaryotes (Lac operon ) eukaryotes iv) Blotting techniques
9.	V	MJC-9 (Plant Ecology and Phytogeography)	i) Environment, Ecology, Biosphere,Biome, habitat, niche; Adaptation of hydrophytes and xerophytes Biotic interactions ii) Population ecology Community ecology Ecosystem iii) Soil iv) Biogeochemical
10.	VI	MJC-10 (Plant Systematics)	i) Systematics, concept of taxa ( family, genus, spices); Categories and taxonomic hierachy; Spices concept (taxonomic, biological , evolutionary) Botanical nomenclature ii) Classification of plants as proposed by Bentham & Hooker and Hutchinson iii) Floral Characteristics and economis importance of following families : Ranunculaceae, Asclepiadaceae, Apocynaceae, Amaranthaceae, Euphorbiaceae, Lamiaceae, Cyperaceae, ana Poaceae iv) Phylogeny of Angiosperms
11.	VI	MJC-11 (Reproductive Biology of Angiosperms)	i) Anther ii) Ovule Endosperm iii) Embryo iv) Apomixis & Polyembryony
12.	VI	MJC-12 (Plant Physiology)	i) Plant water relationship ii) Mineral nutrition iii) Phytohormones iv) Physiology of flowering
13.	VII	MJC-13 (Plant Metabolism)	i) Concept of metabolism, regulation of metabolism, role of regulatory enzymes ii) Photosynthesis iii) Respiration iv) Biological nitrogen fixation (examples of legumes and non-legumes)
14.	VII	MJC-14 (Research Methodology of Faculty of Science)	
15.	VII	MJC-15 (Recombinant DNA technology and Plant Biotechnology)	i) DNA technology ii) Passenger DNA Construction of rDNA Methods of DNA transfer in suitable host Selection strategies iii) Plant Tissue Culture iv) Application of Recombinatinant DNA technology



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16.	VIII	MJC-16 (Horticultural Practices and Post- harvest Technology)	i) Introduction ii) Ornamental plants Fruit and vegetable crops iii) Horticultural techniques iv) Landscaping and garden design Floriculture v) Post-harvest technology Disease control and management
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