Subject Code : CCN3X9

CORE COURSE IX – GENE MANIPULATION IN PLANTS

Unit I

Chloroplast genomo: Photogene – LSU & SSU of RuBp case – Amplification RuBpcase and its impact Herbicide binding protein – Terpenoid Synthesis and its control . Role of light and dark in regulation of enzyme activity.

Unit II

Phytochrome – modiated functions – Phytochrome induction – Phytochrome action – Light activation of NRase Light activation of enzymes – Strong and weak promoters.

Unit III

Herbicide resistant – Aroa gene and EPSPS gene - creation of transgenies : Pest resistance – Cry gene, CPTI gene,Bt – cotton, Bt maize, Bt – tomato, Bt – tobacco – Mechanism of development of resistancae – Environmental impact of Bt gene – Transgaene escape – Heat shock proteins and their role.

Unit IV

Fruit ripening – Floor Savr – Antisense FNA technique – Terminaator gene – Drought tolerance – Aantooxidant enzymes – Saline tolerant genes – Antifreeze proteins Siren tolerant proteins – Biodegradation plastics – Nit gene transfer

Unit V

Green fluorescent & red fluorescent protein – Plantibody production – plants as tool for recombinant protein production – vaccine product in plants – Bio - farming