SYLLABUS FOR THE POST OF ASSISTANT SEED CERTIFICATION OFFICER

Cell structure and function : Cell division; pollination, fertilization and embryogenesis: apomixis; Mendelian principles; linkage recombination and genemapping; ploidy variations euploids and aneuploids; chromosomal aberrations; extra-chromosomal inheritence.

Nucleic acids-structure and functions : Mutation; genetic basis of plant breeding; pure line, pedigree and mass selection; backcross and recurrent selection techniques; clonal selection; heterosis and combining ability; male sterility and incompatibility and their use in plant breeding and hybrid seed production; chemical composition of seeds; bio-synthesis of carbohydrates, proteins; and fats; mechanism and factors determining seed germination and dormancy; germination inhibitors and promoters; endogenous hormonal regulation of germination and dormancy; breaking of dormancy.

Types & classes of seed : Seed vigours & viability; seed quilty concept system of seed quality control; testing, release and notification of varieties, deterioration of varieties, maintenance of genetic puirty; area of seed production; management of hybrid seed production-isolation and synchronization of flowering; role of insect pollinators and their efficiency, factors responsible for mechanical injury to seed; seed legislation.

IPR, PVP & Farmer's Right Issues;

Seed Certification : Concept and procedures; measurement of seed quailty ; metabolic changes associated with seed deterioration; seed packaging, storage and marketing; Seed ecology; principles of insect control in field crops; integrated pest management; fumigation and chemical treatment for pest control in store; fungal, bacterial and viral seed borne diseases of cereals pulses, oilseeds and vegetables and their control; seed moisture; seed drying and processing; history of seed industry in India; National and International organizations for seed quilty control and trade.