B.Sc. (AG) Semester – III
Fundamentals of Plant Breeding
(AG 302)

Q.1.   Define the following:

fuEufyf[kr dks ifjHkkf"kr dhft,%&

   (i)   Polyploidy   (ii)   In breeding depression

         cgqxqf.krk   var% iztuu àkl

   (iii)   Helerosis   (iv)   Wide hybridization

         ladj vkst   nwjLFk ladj.k

   (v)   Restorer line

Q.2.   Explain the pedigree selection method on the basis of following points:

oa'kØe p;u fof/k dk fuEufyfyf[kr fcUnqvksa ds vk/kkkj ij O;k[;k dhft,%&

   (i)   Procedure of Pedigree selection method

         oa'kØe p;u fof/k dh izfØ;k

   (ii)   Merits and demerits

         xq.k rFkk nks"k

Q.3.   Write the short note on the following:

fuEufyf[kr ij laf{kIr fVli.kh fyf[k,%&

   (i)   Apomixes   (ii)   Genetic advance

         vlaxtuu   vkuqoaf'kd vfxze

Q.4.   What is male sterile line? Describe the different types of cytoplasmic genetic male sterility.

uj ca/;rk D;k gS\ tuunzO; vkuqoaf'kd uj ca/;rk dh fofHkUuu izdkjksa dk o.kZu dhft,A

Q.5.   Define the following:

fuEufyf[kr dks ifjHkkf"kr dhft,%&

   (i)   Self incompatibility   (ii)   Macrogametogenesis

         Lo% vfu"ksP;rk   o`gn~ ;qXedtuu

   (iii)   Apogamy   (iv)   Chasmogamy

         vi;qXeu   mUehy ijkx.k

   (v)   Germplasm

         tuu nzO;

6.   Write down a short note on following:

fuEufyf[kr ij laf{kIr ys[k fyf[k,%&

   (i)   Centre of origin   (ii)   Gametogenesis

         mRifÙk LFkku   ;qXed tuu

7. Write down the name of five scientist in relation to plant breeding and their contribution in plant breeding.

Ikkni iztuu foKku ls lEcaf/kr fdUugha ik¡p oSKkfudksa ds uke fyf[k, rFkk ikni iztuu esa muds ;ksxnku ds ckjs esa fyf[k,A

8. Explain the following of back cross method:

izrhi ladj.k fof/k ds fuEufyf[kr fcUnqvksa dh O;k[;k dhft,%&

   (i) Procedure of back cross method for transfer of dominant gene.

   izHkkoohthu LFkkukukarj.k ds fy, izrhi ladj.k fof/k dh izfØ;k

   (ii) Definition, merit and demerits

   ifjHkk"kk] xq.k rFkk nks"k

9. Define the following:

fuEufyf[kr dks ifjHkkkf"kr dhft,%&

   (i) Hardy-Weinberg law   (ii)   PPV & FRA

   gkMhZ&osucxZ fu;e   ikS/k   fdLe   vkSj   d`"kd   vf/kdkj   laj{k.k   izkf/kdj.k

   (iii) Mutation breeding   (iv)   Disease resistance

   mRifjorZu iztuu foKku   jksx izfrjks/k

   (v) Fertilization

   fu"kspu

10. Write down the difference between following:

fuEufyf[kr esa varj fyf[k,%&

   (i) RSGCA & RSSCA

   GCA ds fy, vkorhZ p;u rFkk SCA ds fy, vkorhZ p;u

   (ii) Synthesis varieties & Composits varieties

   la'ysf"kr fdLesa rFkk fefJr fdLesa

Q.11. Define the following:

fuEufyf[kr dks ifjHkkkf"kr dhft;s%&

   (i) Plant breeding   (ii)   Male sterility

   ikS/k iztuu   uj cU/;rk

   (iii) Diversity   (iv)   Self pollination

   fofo/krk   Lo% ijkx.k

   (v) Maintainer line

   vuqj{kd ykbu

Q.12. Explain the role of genetics in relation to plant breeding.

ikni iztuu ds laca/k esa vkuqoaf'kdh dh Hkwfedk crkb;sA

Q.13. Write short note on following:

fuEufyf[kr ij laf{klr fVli.kh fyf[k,%&

(i) Role of plant breeding in crop improvement

Qly lq/kkj esa ikni iztuu dh Hkwfedk

(ii) Asexual reproduction

vySafxd iztuu

Q.14. Write down different methods of breeding in self pollinated crops in detail.

Lo ijkfxr Qlyksa esa iztuu ds fofHkUu rjhdksa dks foLrkj ls fyf[k,A

Q.15. Define the following:

fuEufyf[kr dks ifjHkkf"kr dhft;s%&

(i) Introduction   (ii) Segregating population

bUVªkWkWMD'ku   i`FkDdj.k ikWiqys'ku

(iii) Acclimatization   (iv) Centre of origin

,fDyesfVts'ku   mRifÙk dsUnz

(v) Genetic variation

vkuqoaf'kd fHkUurk

Q.16. Write down short note on following:

fuEufyf[kr ij laf{klr fVli.kh fyf[k,%&

(i) Ear to row method of population improvement.

tula[;k lq/kkj ds fy, ckyh ls iafDr fof/kA

(ii) Hybridization

ladj.k

Q.17. Write down two names of improved varieties/hybrids of wheat, barley, chickpea, mungbean, clusterbean, sorghum, pearl millet, groundnut, mustard, urdbean.

xsagw¡] tkS] puk] ew¡x] Xokj] Tokj] cktjk] ew¡xQyh] ljlksa] mM+n dh nks mUur fdLesa@ladj iztkfr fy[ksaA

Q.18. Explain breeding methods in asexually propagated crops on the basis of following points:

fuEufyf[kr fcUnqvksa ds vk/kkj ij vySafxd :i ls mRikfnr Qlyksa esa iztuu fof/k;ksa dh O;k[;k djsa%&

(i)	Procedure	(ii)	Merits of this method
	izfØ;k		bl i)fr dk xq.k

Q.19. Define the following:

fuEufyf[kr dks ifjHkkf"kr dhft;s%&

    (i)   Inbreeding depression   (ii)   Emasculation

        buczhfMax fMizs'ku   bELD;wys'ku

    (iii)   Standard deviation   (iv)   Heredity

        ekud fopyu   vkuqoaf'kdrk

    (v)   Randomized block design

        jSaMksekbTM CykWd fMtkbu

Q.20. Write down the difference between:

fuEufyf[kr ds e/; varj fy[ksa%&

    (i)   Sexual and asexual reproduction.

        ySafxd vkSj vySafxd iztuu

    (ii)   Biotic and Abiotic stresses

        tSfod vkSj vtSfod ruko