

BIO – BOTANY**MARKS : 35****I : Choose and write the correct answer :-****8 x 1 = 8**

- A point mutation comprising the substitution of a purine by pyrimidine is called
 - Transition
 - Translocation
 - Deletion
 - Transversion
- In a mutational event when adenine is replaced by guanine, it is the case of
 - Frameshift mutation
 - Transcription
 - Transition
 - Transversion
- Due to incomplete linkage in maize, the ratio of parental and recombinants are
 - 50 : 50
 - 7 : 1 : 1 : 7
 - 96.4 : 3.6
 - 1 : 7 : 7 : 1
- Genes GSLH are located on same chromosome. The recombination percentage is between L and G is 15% , S and L is 50%, H and S are 20%. The correct order of genes is
 - GHSL
 - SHGL
 - SGHL
 - HSLG
- Changing the codon AGC to AGA represents
 - missense mutation
 - nonsense mutation
 - frameshift mutation
 - deletion mutation
- How many map units separate two alleles A and B if the recombination frequency is 0.09cM.
 - 900cM
 - 90 cM
 - 9 cM
 - 0.9cM
- Accurate mapping of genes can be done by three point test cross because increases.
 - Possibility of single cross over
 - Possibility of double cross over
 - Possibility of multiple cross over
 - Possibility of recombination frequency

- Mustard gas _____ used as chemical weapon in world war I.
 - Dichloro ethyl sulphide
 - Dichloro ethyl sulphate
 - Dichloro methyl sulphate
 - Dichloro methyl phosphate

II. Answer any four questions :**4 x 2 = 8**

- Define Tetrad formation.
- Define point mutation.
- Define Nullisomy.
- What is colchicine. Write its uses.
- Define Branch migration.
- What is called comutagens

III. Answer any 3 of the following : Q. No 18 is compulsory : 3 x 3 = 9

- Write the history of development of chromosome theory.
- Write the parallelism between mendalian factors and chromosomal behaviour.
- Define synapsis. Write its three types.
- Write the differences between linkage and crossing over.
- Write uses of genetic mapping.

IV. Answer any 2 of the following :**2 x 5 = 10**

- a) Write the short notes of translocation.

(OR)

- Write the short notes of duplication

- a) Define multiple alleles and write the characteristics of multiple alleles.

(OR)

- write the short notes about genetic mapping and map distance.



AIM MATRIC. HR. SEC. SCHOOL.

BIOLOGY

CLASS : XII

BIO - ZOOLOGY

MARKS : 35

I : Choose and write the correct answer :-

8 x 1 = 8

- ABO blood group in man is controlled by
 - Multiple alleles
 - Lethal genes
 - Sex linked genes
 - y - linked genes.
- Klinefelters syndrome is characterized by a karyotype of
 - XXX
 - XO
 - XXX
 - XXY
- Three children of a family have blood groups A, AB and B what could be the genotypes of their parents ?
 - $I^A I^B$ and ii
 - $I^A I^O$ and $I^B I^O$
 - $I^B I^B$ and $I^A I^A$
 - $I^A I^A$ and ii
- Co - dominant blood group is
 - A
 - AB
 - B
 - O
- ZW - ZZ system of sex determination occurs in
 - fishes
 - Birds
 - Reptiles
 - all of these
- Which one of the following symbols and its representation, used in human pedigree analysis is correct ?
 - mating between relatives $\square=\bigcirc$
 - unaffected male $\bigcirc=$
 - unaffected female $\square=$
 - male affected $\diamond=$
- Pick out correct statement
 - Haemophilia is a sex linked recessive disease.
 - Down's syndrome is due to aneuploidy
 - Phenylketonuria is an autosomal recessive gene disorder.
 - Sickle cell anaemia is an x linked recessive gene disorder.
 - i and iv are correct
 - ii and iv are correct
 - i, iii and iv are correct
 - i, ii and iii are correct

8. Universal Donor _____ Universal recipients _____

II. Answer any four questions :

4 x 2 = 8

- What is multiple allelism?
- Mention the symptoms of phenylketonuria.
- Define Barr body
- What is Lyon's hypothesis ?
- Define : a) holandric genes b) kin selection.
- What is Trisomy - 21 ?
- Draw the symbols commonly used in pedigree charts.

III. Answer any 3 of the following : Q. No 19 is compulsory : 3 x 3 = 9

- Write the applications of karyotyping.
- How phenylketonuria is caused ? Explain.
- Briefly describe sex determination in human beings.
- How Erythroblastosis foetalis can be prevented ?
- Describe Fisher and race hypothesis.
- Explain Zc - Zz type of sex determination.

IV. Answer any 2 of the following :

2 x 5 = 10

- Briefly explain ABO blood groups.
- Describe about colour blindness.
 - Marriage between colour blind man and normal vision.
 - Marriage between normal visioned man and colour blind woman.
- Write notes about :
 - Thalassemia
 - Albinism
 - Huntington's chorea.
- What is Rh - factor. Explain incompatibility of Rh - factor - Erythroblastosis foetalis.