

NOTE: All questions are compulsory.
Draw diagrams wherever necessary.

I. 1. Define (ANY THREE)

- A)
1. Letco compound
 3. Mordant
 2. Working distance of a covered object.
 4. Limit of Resolution.
11. Name the following (ANY TWO)
1. Two natural dyes.
 2. Stains used in gram's staining.
 3. Aberrations of an objective lens.
- 3) Answer the following (ANY TWO)
1. What is meant by Acid fast bacteria? Explain the procedure involved in ZNCF staining?
 2. Explain condenser lens and its types .
 3. Distinguish between Bright Field & Dark field microscopy.

II. Fill in the blanks :

- A)
1. The allele that predominates in population of the organism is----- allele.
(wild type, mutant, multiple).
 2. I^A allele converts H antigen to ----- antigen.
(A, B, antibody A).
 3. ----- is the phenomenon in which one allele is dominant to another so that the phenotype of heterozygote is same as that of the homozygous dominant.
(complete dominance, complete recessiveness, incomplete dominance).
 4. In ----- the heterozygote exhibits the phenotype of both homozygotes.
(multiple alleles, codominance, partial dominance).
 5. The ----- comb depends on the presence of two dominant alleles R --- and P --- located at two independently assorting gene loci.
(walnut, Pea, Rose).
 6. An allele that results in the death of an organism is called a ----- allele.
(wild, lethal, Essential gene).
 7. ----- is a protein molecule that recognizes and binds to the Foreign substance.
(allele, antigen, antibody).
- 3) Explain (ANY TWO)
1. Partial dominance.
 2. ABO blood group and multiple alleles.
 3. Dominant epistasis.

III. Give one function of each of the following (ANY FIVE)

- A)
1. Smooth Endoplasmic reticulum.
 2. Ribosome.
 3. Bone.
 4. Cartilage.
 5. Epithelial tissue.
 6. Muscular tissue.
 7. Nervous tissue.

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Q.III. Answer the following (ANY TWO)

(B)

1. Define tissue ? Explain cartilage as a connective tissue ?
2. Write a note on E coli as a model organism for genetic experimentation
3. Briefly describe nervous tissue ?

Q.IV. Answer the following (ANY THREE)

1. Explain striated voluntary muscle ?
2. Write a note on smooth muscle.
3. Distinguish between Hugenian & Ramsden eyepiece.
4. Explain gene interactions producing new phenotypes with modified mendelian ratio.
5. Write a note on codominance.

-X-X-X-X-X-