



Q1/ Fill in the blanks with suitable words or sentence? 40 marks

- 1-Codon is composed of (e.g. ACG or UAG). Each codon is translated into amino acid.
- 2-The 4 nucleotide bases (A,G,C and U) in mRNA are used to produce the base codons. There arefor the amino acids.
- 3- Point Mutation Occurs in the gene.
- 4-The units of length of nucleic acids in which genome sizes are expressed 1-....., 2-....., 3-.....
- 5- The Human genome isbase pairs andgenes.
- 6-Viral genomes are typically in the range
- 7-Probability may be expressed a....., and
- 8-Bacterial genomes are, typically in the range Mb
- 9-..... is a substance within a chromosome consisting of DNA and protein. The DNA carries the cell's genetic instructions. The major proteins in chromatin are
- 10-.....is a study design used to detect associations between genetic variants and common diseases or traits in a population

Q2/ List the types of chromosome mutations and Write about nondisjunction mutation? 20 marks

Q3/what is polymerase chain reaction (PCR)? AND write the types of PCR? 20 marks

Q4/A- How many gametes will be produced for the following allele arrangements? 10 marks

1. BbRr
- 2.AaBbCCDd

B/Make the complementary RNA strand for the single strand of DNA below: 10 marks

TTTCATCATCGCTCGACCAAGAA

All the best

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