

Name: _____						
Subject: Biology		Class: 12 th	Time: 80 minutes	Total Marks:	40	
Chapter No.20		MJDexpert.com			Obtained marks	

Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts of Question 3. Cutting and removal of any content is strictly prohibited.

Q#1 Encircle the Correct Option (10 x 1 = 10)

1. What term describes the complete set of chromosomes an individual has?

- A) Karyokinesis B) Karyotype C) Karyogamy D) Plasmogamy

2. Which enzyme is responsible for synthesizing RNA?

- A) DNA Polymerase B) RNA Ligase C) RNA Polymerase D) Endonuclease

3. What are the approximate percentages of DNA and proteins in chromosomes?

- A) 40% DNA and 60% Protein B) 60% DNA and 40% Protein C) 40% DNA and 50% Protein D) 60% DNA and 50% Protein

4. How many nucleotides are estimated to be in the DNA of a human chromosome?

- A) 140 Million B) 140 Billion C) 1.4×10^4 Million D) 1.4×10^4 Billion

5. Who first provided evidence supporting the hereditary function of DNA?

- A) Alzheimer B) Darwin C) Frederick Griffith D) Mendel

6. In which year was DNA first discovered?

- A) 1896 B) 1867 C) 1769 D) 1869

7. How many nucleotides make up the genetic code?

- A) Three B) Four C) Six D) Twenty

8. Which codon is recognized as the start codon?

- A) UAG B) AUG C) UAA D) UGA

9. Human cells contain approximately how many distinct types of RNA molecules?

- A) 20 B) 45 C) 195 D) 200

10. The process of producing mRNA from DNA is termed?

- A) Translation B) Transduction C) Transformation D) Transcription

Q #2 Short Questions (2 x 10 = 20)

1. What is the function of an anticodon?

2. Explain the concept of a karyotype.

3. What is a transcription bubble and its significance?

4. Name the three primary types of RNA.

5. Define the process of transcription.

6. Define the process of translation.

7. What are mutations and how do they occur?

8. Where does the process of DNA replication begin on the DNA molecule?

9. Explain the concept of transformation in genetic terms.

10. Describe chromosomes and their organization into nucleosomes.

Q #3 Long Questions (2 x 5 = 10)

1. Discuss DNA's role as the material of heredity in detail.

2. Provide a comprehensive explanation of translation and mutations.