



# SHIKSHA CLASSES

## BOARD QUESTION PAPER

Subject : Biology

Ch.: 4. Molecular Basis of Inheritance

Total Marks : 25

Class : XII

Time : 1 Hr.

**Q.1. : Select & write the most appropriate answer from the given alternatives for each sub-question. 4**

- i) Which of the following is a STOP codon?  
a)AUG            b)UAA            c) GUG            d)GGU
- ii) Okazaki fragments are formed during.....  
a) Translation    b) Transcription    c) Transduction    d) Replication
- iii) The gene is a segment of .....  
a)m-RNA            b)r-RNA            c)DNA            d) t-RNA
- iv) In prokaryotes ..... recognizes the promoter sequence.  
a) alpha factor    b) rho factor            c) theta factor            d) sigma factor

**Q.2. : Write the answer in ONE sentence: 2**

- i) How many bases codes for one amino acid?  
ii) Name the two purines of DNA.

### Section B

**: Attempt any THREE. 6**

**Q.3:** Draw well labelled diagram of structure of DNA.

**Q.4:** Draw well labelled diagram of M-RNA

**Q.5:** Enlist different steps of protein synthesis.

**Q.6:** What is the advantage of sequencing of genomes of non-human organisms?

### Section C

**Attempt any THREE. 9**

**Q.7:** Explain the terms introduced by Seymour Benzer.

**Q.8:** Distinguish between DNA & RNA.

**Q. 9 :** Sketch and label diagram of t-RNA.

**Q. 10 :** Give reason:Protein synthesis is the most important and essential activity in the living cells.

### **Section D**

**: Answer the following : (ANY 1)**

4

**Q. 11 :** What is DNA? Describe the double helical structure of DNA.

**Q. 12 :** Describe the Lac Operon.

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