SELF ASSESSMENT TEST

(Chapter 4 : Molecular basis of inheritance)

Time : 1 Hour] **[Marks : 20**

Notes :

1. All questions are compulsory.
2. Figures to the right indicate full marks.

SECTION – A

Q. 1. Multiple Choice Questions (MCQ) : *(1 mark each)*

(i) The enzyme required for transcription is ..... .

(a) DNA polymerase (b) RNA polymerase

(c) Restriction enzyme (d) RNase **[1]**

(ii) In prokaryotes, ... recognizes the promoter sequence.

(a) alpha factor (b) rho factor (c) theta factor (d) sigma factor **[1]**

(iii) Out of 64 codons, only 61 code for the 20 different amino acids. This is known as ..... of genetic code.

(a) non-ambiguity (b) overlapping nature

(c) ambiguity (d) degeneracy **[1]**

(iv) Mutation that results in Sickle-cell anaemia is a ..... .

(a) deletion (b) frame-shift mutation (c) point mutation (d) insertion **[1]**

Q. 2. Very Short Answer Questions (VSA) : *(1 mark each)*

(i) Which are the nucleosomal core histones? **[1]**

(ii) Why are Okazaki fragments formed on lagging strand only? **[1]**

SECTION – B

Q. 3. Short Answer Questions (SA - I) : *(2 marks each)*

(i) Match the columns : **[2]**

Column 'A'	Column 'B'
(1) Frederick Griffith	(a) Test tube assay
(2) Avery, McCarty and MacLeod	(b) *Streptococcus pneumoniae*
(3) Alfred Hershey and Martha Chase	(c) *E. coli*
(4) Meselson and Stahl	(d) Bacteriophages

(ii) Give reason : Eukaryotic DNA is condensed and supercoiled. **[2]**

SECTION – C

Q. 4. Short Answer Questions (SA - II) : *(3 marks each)*

(i) Write the main aims of Human Genome Project. **[3]**

(ii) Describe the structure of operon. **[3]**

SECTION – D

Q. 5. Long Answer Questions (LA) : *(4 marks)*

Describe the steps involved in DNA fingerprinting. **[4]**
