

Duration: 1 hour and 30 min.

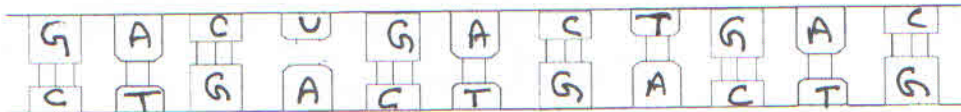
F.M.:25

*Answers should be brief and to the point. Use schematic diagrams to support your answers. Please do not share any information to your classmates during the Test.*

**Q.1. (A)** Replication of DNA occurs in the direction of 5' to 3' directions only. Briefly explain the advantages drawn by cells by executing replication only in this direction.

**(B)** Give six differences exhibited during polymerizing activity of DNA polymerases and RNA polymerases. [3 +3= 6.0 M]

**Q.2.** Following figure represents damage in a DNA. Briefly discuss the process by which it could be repaired.



[4.0 M]

**Q.3.** Give a brief description of the following-

**(A)** Elongation step of prokaryotic translation process with a special emphasis on the utility of elongation factors

**(B)** Mention the advantage drawn by eukaryotic cells by employing splicing process. Give a short explanation of the splicing process. [2.5 + (0.5 + 3) = 6.0 M]

**Q.4. (A)** Briefly explain the role and working of linkers and adaptors in biotechnology.

**(B)** Discuss the following

(i) leader and trailer sequences (ii) role of Rho protein in transcription. [3 + 3 = 6.0 M]

**Q.5. (A)** What is the role of t-RNA synthatase? How it performs editing activity?

**(B)** What are single strand binding proteins? [2+1= 3.0 M]

ALL THE BEST