



**ST. LAWRENCE HIGH SCHOOL**



**A JESUIT CHRISTIAN MINORITY INSTITUTION**

**WORK SHEET – 36**

**Class: XII**

**Sub: Biological Science**

**Date: 08.08.2020**

**Topic: Chapter 6 (Part 5) DNA Replication – Types and Meselson and Stahl's experiment**

**F.M. : 15**

**Choose the correct option:**

**(1x15=15)**

1. The original DNA molecule is preserved intact in one daughter cell and a new double helix molecule for the daughter cell is synthesized in \_\_\_\_\_ type of replication.  
a) Dispersive b) Conservative c) Semi-conservative d) None of these
2. The type of DNA replication proposed by Watson and Crick was for the DNA was :-  
a) Semi-conservative b) Conservative c) Dispersive d) None of these
3. The experiment which supported semi conservative replication was conducted by:  
a) Messener b) Kornberg c) Meselson and Stahl d) Watson and Crick
4. The 'heavy' DNA of Meselson's experiment contained the isotope \_\_\_\_\_ in its chemical composition:  
a)  $N^{14}$  b)  $N^{15}$  c)  $N^{14}$  and  $N^{15}$  both d)  $N^{16}$
5. The second generation of bacteria contains two types of DNA :-  
a) 50% light and 50% intermediate b) 100% heavy c) 50% heavy and 50% light d) All of these
6. The single replicating unit is called :-  
a) Cistron b) Replicon c) Muton d) Recon
7. DNA replication takes place during the \_\_\_\_\_ phase of cell division.  
a)  $G_1$  b)  $G_2$  c) S d) Interphase
8. Activation of deoxyribonucleotides requires the enzyme :-  
a) Phosphorylase b) DNA polymerase c) Helicase d) Gyrase
9. The enzyme which brings about nicking and resealing the DNA stand is :-  
a) Gyrase b) Helicase c) Topoisomerase d) DNA Pol
10. The proteins which stabilize the single strands of DNA by binding to them and preventing them to form a DNA helix :-  
a) Topoisomerase b) SSBPs c) Helicase d) Gyrase
11. The following is the type of DNA polymerase in eukaryotes :-  
a)  $\alpha$  b)  $\beta$  c)  $\gamma$  d) All of these
12. In prokaryotes the following DNA polymerase enzyme is the chief enzyme for replication :-  
a) DNA and I b) DNA pol III c) DNA pol II d) All of these

13. The enzyme which helps in proof reading in prokaryotes :-  
a) DNA pol I b) DNA pol II c) DNA pol III d) All of these
14. The repair of the newly formed DNA segment is sealed by the following enzyme in prokaryotes:-  
a) DNA ligase b) DNA polymerase c) Primase d) Topoisomerase
15. Meselson and Stahl carried out their experiment on the following bacteria :-  
a) *Bacillus* b) *E. Coli* c) *Streptococcus* d) *Vibrio cholerae*

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