

**Gurudas College**  
**Internal Assessment 2021**  
**Zoology Honours**  
**Paper: ZOOA-CC1-2-TH**

FM: 10

Time: 30 Minutes

(Answer *any Ten Multiple Choice Questions* of the following)

1. The consensus promoter sequence consists of 5-TATAAT-3' for the **-10** region in prokaryotes also known as
  - a. GC box
  - b. Enhancer box
  - c. Pribnow box
  - d. None of the above
  
2. Sigma ( $\sigma$ ) factor is a component of
  - a. Prokaryotic RNA polymerase core enzyme
  - b. Prokaryotic RNA polymerase holoenzyme
  - c. Eukaryotic RNA polymerase II
  - d. Eukaryotic RNA polymerase I
  
3. Histone acetylation is mediated via
  - a. DNA methyltransferases
  - b. Histone deacetylases
  - c. Histone acetyltransferases
  - d. Histone methyltransferases
  
4. Denaturation step of PCR involves heating between
  - a. 50-68°C
  - b. 95-98°C
  - c. 72-72°C
  - d. 40-60°C
  
5. Western blot involves
  - a. SDS-PAGE
  - b. Agarose gel electrophoresis
  - c. Denaturing formaldehyde agarose gel electrophoresis
  - d. None of the above
  
6. Which of the following enzymes separates the two strands of DNA during replication?
  - a. Gyrase
  - b. Topoisomerase
  - c. Helicase
  - d. DNA polymerase
  
7. DNA replication is
  - a. conservative
  - b. conservative and discontinuous
  - c. semi-conservative and discontinuous
  - d. semi-conservative and semi-discontinuous
  
8. Which of the following is used in DNA replication studies?
  - a. *Neurospora crassa*
  - b. *Drosophila melanogaster*
  - c. *Escherichia coli*
  - (d) *Pneumococcus*
  
9. DNA polymerase synthesizes
  - a. DNA in 5'-3' direction

- b. DNA in 3'-5' direction
- c. mRNA in 3'-5' direction
- d. mRNA in 5'-3' direction

10. Which one is not the effect of DNA denaturation?

- a. Increase in absorption of UV light at 260nm
- b. Increase in density
- c. Increase in osmotic pressure
- d. Increase in specific optical rotation

11. Which is not the feature of a genetic code?

- a. Triplet
- b. Degenerate
- c. Ambiguous
- d. Non-overlapping

12. Polysomes are

- a. Aggregation of ribosome
- b. Aggregation of lysosomes
- c. mRNA molecules where many ribosomes are attached simultaneously
- d. All of these

13. Which nucleotide is present in the 5' cap?

- a. ADP
- b. GDP
- c. CDP
- d. UDP

14. Splicing concensus sequence is \_\_\_\_\_

- a. Exon/GU-intron-AG/exon
- b. Exon/UG-intron-AT/exon
- c. Exon/GU-intron-GA/exon
- d. Exon/AU-intron-CG/exon

15. In DNA, the enzyme which breaks the hydrogen bonds is

- a. Ligase
- b. Helicase
- c. Topoisomerase
- d. Polymerase