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Class: 12
Subject: Biology
Topic: Moleculer Basic of Inheritance
No. of Questions: 25

Q1. If a double stranded DNA has 20 per cent of cytosine, calculate the per cent of adenine in the DNA.

Q2. Make a brief note on RNA polymerase.

Q3. Make a note on DNA Ploymerase.

Q4. Explain the following terms.
Anticodon, transformation, transcription, translation, nucleosome.

Q5. Diagrammatically explain Griffith experiment.

Q6. Explain structure of DNA.

Q7. Explain types of DNA.

Q8. How DNA replication occur?

Q9. What are the three types of RNA, where can they be found and what is their function in the cell?

Q10. Describe the process of transcription. (three steps)

Q11. Describe the process of translation.

Q12. During DNA replication what is the first process to occur?

Q13. What is the name given to the short stretches of DNA formed on the lagging strand?

Q14. What is the function of DNA polymerase III?

Q15. Which three people were awarded the Nobel Prize for the discovery of the structure of DNA: the double helix?

Q16. What are pentoses? To what organic group do pentoses belong? Are nucleotides formed of only one type of pentose?

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Q17. Bacteria are prokaryotic cells, i.e., they do not have a membrane-delimited nucleus. Eukaryotes have cells with a delimited nucleus. Where in these types of cells can DNA be found?

Q18. What is the numeric relation between pyrimidine and purine bases in the DNA molecule? Is that relation valid in RNA molecules?

Q19. What are the chemical bonds of the DNA molecule that are broken for the replication process to occur?

Q20. Is there any situation in which DNA is made based on a RNA template? What is the enzyme involved?

Q21. Satellite DNA is useful tool in

a. Genetic engineering

b. Organ transplantation

c. Sex determination

d. Forensic science

Q22. If the total amount of adenine and thymine in a double-stranded DNA is 45%, the amount of guanine in this DNA will be

a. 22.5%

b. 27.5%

c. 45%

d. 55%

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Q23. In history of biology, human genome project led to the development of?

a. Bioinformatics

B. Biosystematics

b. Biotechnology

c. Biomonitoring

Q24. Okazaki is known for his contribution to the understanding of

a. Transcription

b. Translation

c. DNA replication

d. Mutation

Q25. Through which enzyme can RNA give rise to DNA

a. Restriction enzyme
b. DNA polymerase
c. RNA polymerase
d. Reverse transcriptase