1. Store house of genetic material in the nucleus\_\_\_\_\_\_\_\_.
2. Chromosome b) **Nucleoplasm** c) Nucleolus d) Nucleoid
3. The transfer of electrons from one atom to the other is called \_\_\_\_\_\_\_\_\_\_ bond.
4. covalent b) **Ionic** c) Hydrogen d) peptide
5. Bee wax is the example of \_\_\_\_\_\_\_\_\_
6. Proteins b) Carbohydrates c) **Lipids** d) Nucleic acids
7. Which enzyme plays a major role in transcription?

A )**DNA Polymerase** b) RNA Polymerase c) DNA Ligase d) Endonuclease

1. The negatively charged ions are called \_\_\_\_\_\_

a)Anions b) **Cations** c) Atom d) Molecules

1. Global warming can be controlled by\_\_\_\_\_\_\_\_\_\_\_\_\_.

a) Reducing reforestation b) **Reducing deforestation** c) Increasing deforestation d) Increasing fossil fuel usage

1. DNA replication enzyme is\_\_\_\_\_\_\_\_\_\_\_.

a) Restriction enzyme b) **DNA polymerase** c) RNA Polymerase d) Ligase

1. The two DNA strands are connected by \_\_\_\_\_\_ bond.

a) Ionic b) Covalent c) **Hydrogen** d) Peptide

1. The codon which initiate protein synthesis\_\_\_\_\_\_.
2. **AUG** b)AAA c)UAA d) UAG
3. The Lock and Key model is proposed by

a) Mendel b) **Emil fischer** c) Schwann d) Robert Hooke

11) \_\_\_\_\_\_\_\_\_\_ is called as table sugar.

a) **Glucose** b) Lactose c) Fructose d) Sucrose

12) In RNA, Purine based adenine pair with \_\_\_\_\_.

a) Thymine b) Guanine

c) Cytosine d) **Uracil**

13) The discontinuous DNA fragments present in lagging strand are called \_\_\_\_\_\_\_\_\_\_\_.

a) **Okazaki** b) Lagging c) RNA d) Molecular

14) The groove on the surface of enzyme is called as\_\_\_\_\_\_\_.

a) **Active site** b) Exon site c) Gene site d) Inactive site

15) \_\_\_\_\_\_\_\_\_ is the termination codon.

a) AUG b) CUG c) UGC d) **UAA**

16) The use of DNA as a pharmaceutical agent to treat disease is called\_\_\_\_\_\_\_\_\_\_.

a) SCNT b)cloning c) **Gene therapy** d) Stem cell

17) The Positively charged ions are called as \_\_\_\_\_\_\_\_\_.

a) **Anions** b) Cations c) Atoms d) Molecules

18) The DNA structure was discovered by \_\_\_\_\_\_.

a) **Watson and crick** b) Watson and Smith c) Thompson and Smith d) Singer and Nicolson

19) In DNA, Thymine pair with \_\_\_\_\_\_\_\_.

a) Cytosine b) Guanine c**) Adenine** d) Thymine

20) The use of DNA as a pharmaceutical agent to treat disease is called\_\_\_\_\_\_\_\_\_\_.

a) SCNT b)cloning c) **Gene therapy** d) Stem cell therapy

21) The initiation codon is \_\_\_\_\_\_\_\_\_\_\_\_.

a) **AUG** b) AGC c) AGG d) CGA

22) \_\_\_\_\_\_\_\_\_\_bind at the active site of the enzyme.

a) Enzyme b) Trypsin c) Insulin d) **Substrate**

23) \_\_\_\_\_\_\_\_\_protein is present abundantly in hair and nail

a) Haemoglobin b) Myoglobin c) **Keratin** d) Myosin

24) In RNA, Purine based adenine pair with \_\_\_\_\_.

a) Thymine b) Guanine

c) Cytosine d) **Uracil**

25) \_\_\_\_\_\_\_\_\_ refers to numbers, variety and variability of living organism and ecosystem

a) Food chain b) Food Web c) **Biodiversity** d) Tropic level

26) The optimum temperature for enzyme action is\_\_\_\_\_\_\_\_\_

a)**35-40◦C** b) 40-45◦C c) 45-50◦C d) 50-55◦C

27) Amino acid are connected by \_\_\_\_\_\_\_\_ bond.

a) **Peptide** b) Ionic c) Covalent d) Hydrogen

28) Induced Fit model of enzyme action is proposed by \_\_\_\_\_\_\_\_.

a)Emil Fischer b) Schwann c) **Koshland** d) Mendel

29) \_\_\_\_\_\_\_ molecule is explained with induced fit model.

a)Lipid b) DNA c) RNA d) **Enzyme**

30) The groove on the enzyme is called \_\_\_\_\_\_\_\_\_\_\_\_.

a) Gene site **b) Active site** c) Inactive site e) Exon site

31)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is the optimum pH for Enzymes.

a) 2-3 b) 8-10 **c) 6-8** d) 4-6

1. The nitrogenous bases and sugar constitutes \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Pyramidine b) Purine c) Nucleotide d) **Nucleoside**
3. \_\_\_\_\_\_\_\_\_\_ enzyme plase a major role in DNA replication.
4. Helicase b) **DNA Polymerase c)** Ligase d) RNA Polymerase
5. The pyramidine thymine in DNA base pair with \_\_\_\_\_\_\_\_\_\_.
6. Cytosine b) Guanine c) **Adenine d)** Thymine
7. \_\_\_\_\_\_\_\_\_\_ genes does not code for amino acid.
8. **Intron b)** Axon c) Neuron d) Exon
9. The chemical bond is characterized by equal sharing of electrons between atoms is \_\_\_\_\_\_\_\_ bond.
10. **Covalent b)** Ionic c) Co-ordinate d) Hydrogen

**PART – B**

1. Short notes on nucleic acids and their components.
2. Difference between DNA and RNA.
3. Write about RNA and its types.
4. Explain ionic bond with an example.
5. Short notes on importance on biodiversity.
6. What are the factors which affect biodiversity?
7. Define biodiversity and its types.
8. Write some functions of proteins?
9. Importance of Proteins
10. Explain about Gene therapy and its types?
11. Write short notes on genetic code and codons.
12. Write about central dogma?
13. What are the types of RNA? Explain.
14. Explain covalent bond with example.
15. Difference between competitive and non-competitive inhibition.
16. Define totipotent, pluripotent and Unipotent.
17. Short notes on RNA and its types and Functions.

|  |  |
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| 1. Write about the applications of protease enzyme. |  |

**PART – C**

|  |  |
| --- | --- |
| Briefly explain about Transcription process with neat labeled diagram. | |
| (OR) | |
| Write about various factors which affect the enzyme activity. | |
| Write about DNA structure and components with neat labeled diagram. | |
| (OR) | |
| Write an essay about Biological Macromolecules. | |  |
| (OR) | |  |
| Write short notes on enzyme mechanism and its theory? | |  |
| (OR) | |  |
| Explain about the factors which affect enzyme activity. | |  |
|  | |  |
| Explain about recombinant DNA technology and its applications |
| (OR) |
| Explain about lock and key and induced fit model of enzyme mechanism. |
| What is r-DNA technology? Explain the steps and applications of it. |
| (OR) |
| Write short notes on different protein structures with example. |