**MASTERS PRE-UNIVERSITY COLLEGE, HASSAN 573201.**

**Subject: BIOLOGY**

**Biomolecules**

1. Match the columns and select the correct option

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| --- | --- |
| Column I | Column II |
| 1. Triglycerides 2. Lactose 3. RNA 4. β-sheets 5. Bee wax | 1. Galactose 2. Glycerol 3. Palmitic acid 4. Uracil 5. Secondary structure |

1. A-iv,B-i,C-v,D-ii,E-iii
2. A-iv,B-i,C-iv,D-ii,E-iii
3. A-iii,B-i,C-iv,D-v,E-ii
4. **A-ii,B-i,C-iv,D-v,E-iii**
5. Which of the following chemical characteristics is not common to all living beings?
6. Similar triplet code for amino acids
7. Energy is stored by high phosphate bonds
8. **Type of protein present in the body**
9. Ribosomes are the sites of protein synthesis
10. Allosteric modulation is due to inhibition of coenzyme action by
11. Competitive inhibition
12. Substrate inhibition
13. **Product of reaction**
14. Enzyme concentration
15. Inulin found in some plant is
16. Protein hormone
17. **Polysaccharide**
18. Lipid
19. Vitamin
20. Match the columns I and II, choose the correct combination from the options given

|  |  |
| --- | --- |
| Column I | Column II |
| 1. Acidic amino acid 2. Basic amino acid 3. Neutral amino acid 4. Aromatic amino acid | 1. Valine 2. Glutamic acid 3. Tyrosine 4. Arginine |

1. **A-2,B-4,C-1,D-3**
2. A-2,B-1,C-4,D-3
3. A-3,B-2,C-1,D-4
4. A-1,B-4,C-3,D-2
5. Enzyme activity is facilitated to
6. Increase in activation energy
7. **Reduction in activation energy**
8. Altering pH
9. Formation of permanent complex
10. Coenzymes FMN and FAD are derived from vitamin
11. C
12. B6
13. B1
14. **B2**
15. Part of enzyme which combines with non-protein part to form functional enzyme is
16. **Apoenzyme**
17. Coenzyme
18. Prosthetic group
19. None of the above
20. Hexokinase ( Glucose +ATP ) Gucose 6-P +ADP) belongs to the category
21. **Transferases**
22. Lysases
23. Oxidoreductases
24. Isomerases
25. A unit composed of sugar and nitrogen base linked by glycosidic bond is
26. Purine
27. Glycoside
28. **Nucleoside**
29. Nucleotide
30. Joining of repeating units to form a macromolecule is called
31. Aggregation
32. **Polymerization**
33. Polymorphism
34. Condensation
35. An example of feedback inhibition is
36. **Allosteric inhibition of hexokinase by glucose 6-phosphate**
37. Cyanide action on cytochrome
38. Sulfide drug on folic acid synthesis in bacteria
39. Reaction between succinic dehydrogenase and succinic acid
40. Which one yields protein on hydrolysis
41. Fatty acid
42. Nucleic acid
43. Amino acid
44. **None of the above**
45. `The cofactor of the enzyme carboxypeptidase is
46. Copper
47. Iron
48. **Zinc**
49. Manganese
50. Which of the following is the least likely to be involved in stabilizing the three-dimensional folding of most proteins
51. Hydrophobic interaction
52. **Ester bonds**
53. Hydrogen bonds
54. Electrostatic interaction

**MINERAL NUTRITION**

1. During biological nitrogen fixation, inactivation of nitrogenase by oxygen poisoning is prevented by
2. carotene (b) cytochrome

(c) leghaemoglobin (d) xanthophylls

1. Minerals known to be required in large amounts for plant growth include
   1. potassium, phosphorus, selenium, boron
   2. magnesium, sulphur, iron, zinc
   3. phosphorus, potassium, sulphur, calcium
   4. calcium, magnesium, manganese, copper.
2. Deficiency symptoms of nitrogen and potassium are visible first in
3. senescent leaves (b) young leaves

(c) roots (d) buds.

1. The first stable product of fixation of atmospheric nitrogen in leguminous plants is
   1. N b) glutamate c)N d)ammonia
2. Best defined function of manganese in green plants is

a)Photolysis of water b)Calvin cycle

c)nitrogen fixation d)water absorption

1. Which one of the following elements in plants is not remobilized?

a)phosphorus b)Calcium

c)Potassium d)Sulphur

1. Nitrifying bacteria

a)oxidize ammonia to nitrates

b)convert free nitrogen to nitrogen compounds

c)convert proteins into ammonia

d)reduce nitrates to free nitrogen

1. The function of leghaemoglobin in the root nodules of legumes is

a)inhibition of nitrogenase activity

b)oxygen removal

c)nodule differentiation

d)expression of nif gene.

1. Which one of the following helps in absorption of phosphorus from soil by plants?

a)Glomus b)Rhizobium c)Frankia d)Anabaena

1. Which one of the following is not an essential mineral element for plants while the remaining three are?

a)Iron b)Manganese c)Cadmium d)Phosphorus

1. An element playing important role in nitrogen fixation is

a)molybdenum b)copper c)manganese d)zinc

1. Which one of the following is not a micronutrient?

a)Molybdenum b)Magnesium c)Zinc d)Boron

1. Manganese is required in

a)plant cell wall formation b)photolysis of water during photosynthesis

c)chlorophyll synthesis d)nucleic acid synthesis

1. Which of the following is not caused by deficiency of mineral nutrition?

a)Etiolation b)Shortening of internode

c)Necrosis d)Chlorosis

1. Which of the following elements plays an important role in biological nitrogen fixation?

a)Copper b)Molybdenum c)Zinc d)Manganese

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| --- | --- | --- | --- |
| Question  nos | Answers | Question  nos | Answers |
| 1.  2.  3.  4.  5.  6.  7.  8.  9.  10.  11.  12.  13.  14.  15. | d  c  c  b  a  b  d  a  a  c  b  a  d  c  b | 16.  17.  18.  19.  20.  21.  22.  23.  24.  25.  26.  27.  28.  29.  30. | c  c  a  d |