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| **NOTE: PLEASE DO NOT WRITE IN THIS BOX!**  ………………………………………………………………………. ……….... …………  *name technical № entry №*  Examining Committee:   1. ……………………………………………………………… 2. ………………………………………………………………   Final mark: ………………………………………………………… |

**Entry test in …………………………………**

**Date .…………………………………………**

**ENTRY TEST CHEMISTRY**

**2018/2019 Academic year**

**AT MEDICAL FACULTY, TRAKIA UNIVERSITY, STARA ZAGORA**

**Mark the correct answer**

1. **What is electronegativity?**
2. The amount of energy released when an electron is added to an atom
3. The charge on an atom in its preferred oxidation state
4. The power of an atom to attract electrons to itself
5. None of the above
6. **The electrons in a nonpolar covalent bond are**
7. Gained
8. Lost
9. Shared equally
10. Shared unequally
11. **Hydrogen bonding would be seen in a sample of which of the following substances**
12. CH4
13. H2
14. H2O
15. None of the above
16. **Select the ionic compound**
17. CO2
18. P2O5
19. N2O3
20. MgO
21. **Select the substance with intermolecular hydrogen bonds**
22. CH4
23. H2
24. NaH
25. H2O
26. **What is the chemical character of K2O?**
27. Acidic
28. Basic
29. Amphoteric
30. Metallic
31. **What is the chemical character of SO3?**
32. Acidic
33. Basic
34. Amphoteric
35. Metallic
36. **Which of the series below contains only acids?**
37. NaOH, Ca(OH)2, LiOH
38. NaOH, K, CaO
39. NaOH, SO2, S
40. HCl, H2CO3, H2SO4
41. **What is the chemical character of H2CO3?**
42. Acidic
43. Basic
44. Amphoteric
45. Metallic
46. **Which of the series below contains only bases**
47. NaOH, KOH, LiOH
48. NaOH, K, Ca
49. NaOH, KOH, S
50. KOH, LiOH, H2SO4
51. **What are the products of reaction Na + HCl →?**
52. Salt and hydrogen
53. Hydride and base
54. Basic and acidic oxides
55. Acid and base
56. **What is the formula of the compound whose name is Fe (III) carbonate?**
57. Fe2CO3
58. FeCO3
59. Fe3(CO3)2
60. Fe2(CO3)3
61. **What are the products of reaction Zn + CuSO4?**
62. Zinc sulfate and copper
63. Zinc oxide and copper oxide
64. Zinc oxide, copper oxide and sulfur dioxide
65. Zinc oxide, copper oxide and oxygen
66. **What is the product of reaction K + Cl2?**
67. Base
68. Salt
69. Covalent compound
70. Acid
71. **Which of the following does NaOH react with:**
72. H2O
73. CO2
74. CaO
75. Mg(OH)2
76. **What is the formula of the compound whose name is aluminum sulfate?**
77. Al2(SO4)3
78. AlSO4
79. Al2(SO3)3
80. FePO4
81. **Which statement is correct?**
82. Oxidation is loss of electrons and reduction is gain of electrons
83. Oxidation is gain of electrons and reduction is loss of electrons
84. Oxidation is loss of protons and reduction is gain of electrons
85. Oxidation is loss of electrons and reduction is gain of protons
86. **Which statement is correct?**
87. The oxidizing agent is normally in one of its higher possible oxidation states because it will gain electrons and be reduced
88. The oxidizing agent is normally in one of its higher possible oxidation states because it will losses electrons and be reduced
89. The oxidizing agent is normally in one of its lower possible oxidation states because it will losses electrons and be reduced
90. The oxidizing agent is normally in one of its lower possible oxidation states because it will losses electrons and be oxidized
91. **Select one strong acid among the following**
92. CH3COOH
93. H2CO3
94. NH4OH
95. None of the above
96. **Oxidation of aldehydes with Tollens' reagent**



1. **Select the name of the given compound**

CH3

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CH3 ̶ CH2 ̶ CH ̶ C ̶ Cl

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Br CH3

1. 1-bromo-2-chloroisobutane
2. 3-bromo-4-chloro-4,4-dimethylbutane
3. 2-bromo-1-chloro-1,1-dimethylbutane
4. 3-bromo-2-chloro-2-methylpentane
5. **The correct systematic name of the hydrocarbon with the condensed structural formula is:**

CH3 CH3

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CH3 ̶ C ̶ CH2 ̶ CH

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CH3 CH3

1. 1,1,3,3-tetramethylbutane
2. 2,2,4-trimethylpentane
3. 2,2,4,4-tetramethylbutane
4. Isooctane
5. **The general formula of an alkane is**
6. C2nH2n+2
7. CnH2n
8. CnH2n+2
9. CnH2n- 2
10. **The substance with formula C6H12 is called**
11. Hexane
12. Hexene
13. Hexol
14. Hexenoic acid
15. **Compounds with the – OH group attached to a saturated alkane – like carbon are known as**
16. Alkohols
17. Phenols
18. Alkyl halides
19. Hydroxyls
20. **Express the esterification reaction:**

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1. **Ethanal is prepared by oxidation of**
2. Ethanol
3. Acetaldehyde
4. Propan-1-ol
5. Propan-2-ol
6. **The systematic name for acetone is**
7. Propanone
8. Propanal
9. Propanoic acid
10. Ethandiol
11. **This amino acid is called**

CH3

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NH2 ̶ CH ̶ COOH

1. Glycine
2. Alanine
3. Leucine
4. Serine
5. **What type of covalent bonds link the amino acids in a protein?**
6. Peptide bonds
7. Hydrogen bonds
8. Glycosidic bonds
9. Ester bonds
10. **The peptide bond is formed by reaction between**
11. Two carboxylic groups
12. Hydroxylic group and carboxylic group
13. Amino group and carboxylic group
14. No answer is correct
15. **Write the structures of the following compounds:**

**a) Formaldehyde**

**b) Acetone**

**c) Acetic acid**

1. **The disaccharide sucrose is composed of the mono saccharides**
2. Glucose and glucose
3. Fructose and fructose
4. Glucose and fructose
5. None of the above
6. **Which of the following substance is a pentose?**
7. Fructose
8. Glucose
9. Sucrose
10. None of the above
11. **Which two mono saccharides will be formed by hydrolytic cleavage of sucrose?**
12. Glucose and fructose
13. Two molecules of glucose
14. Glucose and galactose
15. Two molecules of fructose