CHEMISTRY

BOOKS - VGS BRILLIANT CHEMISTRY (TELUGU ENGLISH)

CLASSIFICATION OF ELEMENTS-THE PERIODIC TABLES

Exercise

1. What are the limitations of Mendeleev's periodic table ? How could the modern periodic table overcome the limitations of Mendeleev's table?

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2. Define the mordern periodic law . Discuss the construction of the long form of the periodic table .

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3. What are the essential features of the periodic table of Mendeleev? Discuss how his table has been modified subsequently.

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4. Explain how the elements are classified into S. p .d and f- block elements in the periodic table and give the advantage of this kind of classification .

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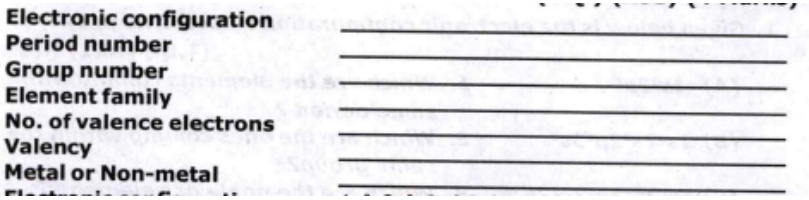
5. Write down the characteristics of the element having atomic number

17.



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6. Complete the following table using the periodic table.

Period number	Filling up orbitals (subshells)	Maximum number of electrons, filled in all the sub shells.	Total no. of elements in the period
1	1s	2	2
2	2s, 2p	8	8
3	3s, 3p	8	8
4	**4s, 3d, 4p**	**18**	**18**
5	5s, 4d, 5p	18	18
6	6s, 4f, 5d, 6p	32	32
7	**7s, 5f, 6d, 7p**	**32**	**Incomplete**

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7. Complete the following table using the periodic table .

Period	Total no.of	Elements		Total no. of elements in			
number	elements	From	To	s-block	p-block	d-block	f-block
1							
2							
3							
4							
5							
6							
7							

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8. Given below is the electronic configuration of elements A, B, C, D : (A) $1s^2 2s^2$, $(B) 1s^2 2s^2 2p^6 3s^2$, $(C) 1s^2 2s^2 2p^6 3s^2 3p^3$, $(D) 1s^2 2s^2 2p^6$, Which are the elements coming within the same period?

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9. Given below is the electronic configuration of elements A,B,C,D: (A) $1s^2 2s^2$, $(B) 1s^2 2s^2 2p^6 3s^2$, $(C) 1s^2 2s^2 2p^6 3s^2 3p^3$, $(D) 1s^2 2s^2 2p^6$, Which are the ones coming within the same group?

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10. Given below is the electronic configuration of elements A,B,C,D: $(A) 1s^2 2s^2$, $(B) 1s^2 2s^2 2p^6 3s^2$, $(C) 1s^2 2s^2 2p^6 3s^2 3p^3$, $(D) 1s^2 2s^2 2p^6$, Which are the noble gas elements?

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11. Given below is the electronic configuration of elements A,B,C,D: $(A)1s^2 2s^2, (B)1s^2 2s^2 2p^6 3s^2, (C)1s^2 2s^2 2p^6 3s^2 3p^3, (D)1s^2 2s^2 2p^6,$ To which group and period does the element 'C' belong?

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12. $1s^2 2s^2$ is the electronic configuration of which element?

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13. What is valency of $1s^2 2s^2 2p^6 3s^2$?

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14. Which pair of elements belongs to the same group ? (atomic numbers are given)

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15. To which group and period does the element 'D' belong ?

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16. S- block and p - block elements except 18 th group elements are sometimes called as 'Representative elements based on their abundant avilability in the nature . Is it justifed ? Why ?

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17. The electronic configuration of the elements, X, Y and Z are given below. A) X=2, B) Y=2,6, C) Z=2,8,3, Which element belongs to second group?

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18. The electronic configuration of the elements X , Y , and Z are given below .

a) X=2 b) Y= 2,6 c) Z= 2,8 ,2

which element belongs to second period ?

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19. The electronic configuration of the elements, X, Y and Z are given below. A) X=2, B) Y=2,6, C) Z=2,8,3, Which element belongs to second group?

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20. State the number of valence electrons , the group number and the period number of each element given in the following table :

Element	Valence electrons	Group number	Period number
Sulphur			
Oxygen			
Magnesium			
Hydrogen			
Fluorine			
Aluminium			

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21. State whether the following elements belong to a Group (G) , Period (P) neither Group nor period (N) .

Elements	Group	Period	Neither Group nor period
Li, C, O			
Mg, Ca, Ba			
Br, Cl, F			
C, S, Br			
Al, Si, Cl			
Li, Na, k			
C, N, O			
K, Ca, Br			

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22. Identify the element that has the larger atomic radius in each pair of the following and mark it with a symol .

(I) Mg or Ca (ii) Li or Cs (iii) N or P (iv) B or Al

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23. Identify the elements that has the lower ionization energy in each pair of the following and mark it with a symol .

(i) Mg or Na (ii) Li or O (iii) Br or F (iv) K or Br

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24. How does metallic character change when we move

Down a group ?

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25. How does metallic character change when we move

Down a group ?

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26. On the basis of atomic numbers predict to which block the elements with atomic number 9 , 37 ,46 and 64 belongs to ?

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27. Using the periodic table , predict the formula of compound formed between element x group 13 and another element Y of group 16 .

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28. An element has atomic number 19. where would you expect this element in the periodic table and Why ?

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29. How do the positions of elements in the periodic table help you to predict its chemical properties ? Explain with and example .

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30. In period 2 element X is to the right of element Y . Then , find which of the element have :

Low nuclear charge

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31. In period 2 element X is to the right of element Y . Then , find which of the element have :

Low atomic size

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32. In period 2 element X is to the right of element Y . Then , find which of the element have :

High ionization energy

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33. In period 2 element X is to the right of element Y . Then , find which of the element have :

High electronegativity

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34. In period 2 element X is to the right of element Y . Then , find which of the element have :

More metallic character

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35. Number of elements present in period - 2 of the long form periodic table _____

A. 2

B. 8

C. 18

D. 32

Answer:

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36. Nitrogen (Z=7) is the element of group V of the periodic table. Which of the following is the atomic number of the next element in the group ?

A. 9

B. 14

C. 15

D. 17

Answer:

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37. Electonic configuration of an atom is 2,8,7, . To which of the following elements would would it be chemically similar ?

A. nitrogen (Z = 7)

B. fluorine (Z = 9)

C. phosphorus (Z - 15)

D. argon (Z - 18)

Answer:

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38. Which of the following is the most active metal ?

A. lithium

B. sodium

C. potassium

D. rubidium

Answer:

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39. Aluminium does not react with water at room temperature but reacts with both dil . Hcl and NaOH solutions . Verify these statements experimentally . Write your observation with chemiscal equation , From these observations , can we concluds that Al is a metalloid ?

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40. How can you explain Aluminium (Al) is a metalloid with chemical equations ?

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41. What relation about elements did dobereiner want to establish ?

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42. The densities of calcium (ca) and barium (Ba) are 1.55 and 3.51 g cm^{-3} respectively based on Dobereiner's law of triads , can you give the approximate density of strotium (Sr) ?

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43. All akali metals are solids but hydrogen is a gas with diatomic molecules . Do you justify the inclusion of hydrogen in first group with alkali metals ?

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44. IF lanthanides and actinides are inserted within the table . Imagine how the table would be ?

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45. Do you know why Newlands proposed the law of octaves ? Explain your answer in terms of the modern structure of the atom .

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46. Why did Mendeleeff had to leave certain blank spaces in his periodic table ? What is your explanation for this ?

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47. What is your understanding about Ea_2O_3, EsO_2 ?

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48. Second ionization energy of an element is higher than its first ionization energy Why ?

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49. The calculated electron gain enthaly values for alkaline earth metals and noble gases are positive . How can you explain this ?

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50. Do you think Newland's law of octaves is correct ? Justify .

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51. Why are lanthanides and actinides placed separately at the bottom of the periodic table ?

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52. The second period element , for example , for example 'F' has less electron gain enthyalpy than the third period element of the same group of example'Cl' . Why ?

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53. Observe the following table and Fill it .

Group	Elements and their Atomic weight			Arithmetic mean 1st and 3rd elements Atomic weight
A	Lithium (Li) 7.0	Sodium (Na) 23.0	Potassium (K) 39.0	$\frac{7.0+39.0}{2} = 23.0 = 23$
B	Calcium (Ca) 40.0	Strontium(Sr) 87.5	Barium (Ba) 137.0	$\frac{40+137}{2} = 88.5 \simeq 87.5$
C	Chlorine (Cl) 35.5	Bromine (Br) 80.0	Iodine (I) 127.0	$\frac{35.5+127.0}{2} = 81.25 \simeq 80$
D	Sulphur (S) 32.0	Selenium (Se) 78.0	Tellurium (Te) 125.0	$\frac{32+125}{2} = 78.5 \simeq 78$
E	Manganese(Mn) 55.0	Chromium(Cr) 52.0	Iron (Fe) 56.0	$\frac{55.0+56.0}{2} = 55.5 \simeq 52$

Observations :

Can you establish the same relationship with the set of elements given in the remaining rows ?

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54. Observe the following table and Fill it .

Group	Elements and their Atomic weight			Arithmetic mean of 1st and 3rd elements Atomic weight
A	Lithium (Li) 7.0	Sodium (Na) 23.0	Potassium (K) 39.0	$\frac{7.0+39.0}{2} = 23.0 = 23$
B	Calcium (Ca) 40.0	Strontium(Sr) 87.5	Barium (Ba) 137.0	$\frac{40+137}{2} = 88.5 \simeq 87.5$
C	Chlorine (Cl) 35.5	Bromine (Br) 80.0	Iodine (I) 127.0	$\frac{35.5+127.0}{2} = 81.25 \simeq 80$
D	Sulphur (S) 32.0	Selenium (Se) 78.0	Tellurium (Te) 125.0	$\frac{32+125}{2} = 78.5 \simeq 78$
E	Manganese(Mn) 55.0	Chromium(Cr) 52.0	Iron (Fe) 56.0	$\frac{55.0+56.0}{2} = 55.5 \simeq 52$

Observations :

Find average atomic weights of the first and third elements in each row and compare it with the atomic weight of the middle element.

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55. What is atomic number ?

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56. Consider the following elements of third period of modern periodic table :

Period III elements	Na	Mg	Al	Si	P	S	Cl	Ne
Atomic number	11	12	13	14	15	16	17	18

How does valency very in a period on going from left to right ?

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57. How does the valency vary on going down a group ?

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58. DO the atom of an element and its ion have same size ?

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59. Imagine , which one in each of the following pairs is large in size relatively with other ? Explain .

(X) Na,Al

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60. Imagine , which one in each of the following pairs is large in size relatively with other ? Explain .

(Y) Na ,Mg^{+2}

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61. Which one in each of the following pairs is larger in size? S^{2-},Cl^{-}.

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62. Which one in each of the following pairs is larger in size ?

(a)

Na, Al $(b) Na, Mg^{+2}$ $(C) S^{2-}, Cl^{-}$ $(d) Fe^{2+}, Fe^{3+}$ $(e) C^{4-}$

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63. Which one in each of the following pairs is larger in size? C^{4-},F^{-}.

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64. Which one between Na and Na^{+} would have more size ?

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65. Which one between Cl and Cl^{-} would have more size ? Why ?

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66. A and B are two elements . The compound formed with A and B is A_2, B. What are the valencies of A and B .

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67. The Atomic number of an element is 35 where would you expect the position of this element in the periodic table ? Why ?

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68. Why were Dobereiner , Newlands and Mendeleeff not 100 % successful in their classfication of elements ? Why is the modern table table relatively a better classification ? Predict the reason .

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69. Two elements X and Y belong to Groups 1 and 2 respectively in the same period of the periodic Table .Compare these elements with respect to :

Number of electrons in their outermost orbit .

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70. Two elements X and Y belong to Groups 1 and 2 respectively in the same period of the periodic Table .Compare these elements with respect to :

Their atomic size and their valancies .

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71. Two elements X and Y belong to Groups 1 and 2 respectively in the same period of the periodic Table .Compare these elements with respect to :

their ionisation energy and metallic character .

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72. Two elements X and Y belong to Groups 1 and 2 respectively in the same period of the periodic Table .Compare these elements with respect to :

Formula of their chlorides and sulphates .

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73. Explain three factors which influence the electron affinity (Electron Gain Enthalpy)

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74. How are the elements arranged into groups and periods in the modern periodic Table ? Elements in a group posses similar properties , but elements in a period do not show similarites in their properties . Why ?

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75. Write the factors that influence ionization energy and Explain any three of them .

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76. Define ' element ' according ot boyle .

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77. State law of triads .

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78. What are the limitations of Dobereiner's law to triads ?

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79. State the law of octaves .

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80. what are the limitations for Newlands' law of octaves ?

Watch Video Solution

81. State the periodic law proposed by mendeleeff.

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82. What are the limitations of mendeleeff's periodic table ?

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83. What is atomic number ?

Watch Video Solution

84. Write modern periodic law .

Watch Video Solution

85. What is a group?

Watch Video Solution

86. How is a period formed?

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87. Which elements are called lanthanides ?

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88. Which elements are called actinides ?

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89. How the elements are callified as metals and non- metals based on their electronic configuration ?

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90. What are metalloids ?

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91. Why do elements in the same group have similar physical and chemical properties?

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92. Why the elements in a period posses different chemical properties ?

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93. Define valaency .

Watch Video Solution

94. Define atomic radius.

Watch Video Solution

95. What is crystal radius (or) metallic radius ?

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96. What is covalent radius ?

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97. How does atomic radius vary in a period and in a group? How do you explain the variation?

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98. Define Ionization energy .

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99. How does the ionization energy vary in a group and a period ?

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100. Electron affinity is

Watch Video Solution

101. How does the electron gain enthalpy values vary in a group and a period ?

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102. Define electronegativity of an element on Mulliken scale.

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103. What is Mulliken's proposal about electronegativity ?

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104. How many following properties varies in a group and in a period ?

(a) Atomic radius (b) Ionisation enthalpy

(c) Electronegativity (d) Electron gain enthalpy

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105. How do metallic and non-metallic charcters vary in a group and period ?

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106. Give example where the electronic configuration of an element does not justify its inclusion in a block of element.

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107. How many elements are present in the 5^{th} period of the long form peripodic table ? Give a possible reason .

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108. What do you mean by screening effect ?

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109. Arrange the elements B, N, Be and O in the increasing order of their ionization potentials.

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110. What is meant by first ionization energy ?

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111. What is meant by second ionization energy ?

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112. What do you mean by element family ?

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113. Give the outer orbit general electronic configuration of

(a) Noble gases

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114. Give the outer orbit general electronic configuration of

(b) Representative elements

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115. Give the outer orbit general electronic configuration of

(c) Transition elements

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116. Give the outer orbit general electronic configuration of

(d) Inner transition elements.

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117. What is a triad?

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118. Chlorine bromine , iodine are Dobereiner's triads .How do you justify ?

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119. Why are lanthanides and actinides placed separately at the bottom of the periodic table ?

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120. Second ionization energy of an element is higher than its first ionization energy Why ?

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121. Hydrogen can be placed in group 1 and group 17 in the periodic table. Why ?

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122. Why do inert gases have zero valency value ?

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123. Z' element belongs to (second) 2^{nd} group in the periodical table , Write the formula of oxide of it .

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124. DO the atom of an element and its ion have same size ?

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Watch Video Solution

125. Which one between Na and Na^+ would have more size ?

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126. What are representative elements? Give their valence shell configuration

Watch Video Solution

127. Formation of cation is endothermic where formation of anion is exothermic justify .

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128. Different elements exist in different physical states. However only gaseous state is taken into consideration for all elements for defining IP

(or) EA. Give reason.

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129. Explain the limiation of Mendeeff's periodic table .

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130. How are the elements divided into s, p, d and f – blocks in the Modern periodic table ?

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131. Do you think Newland's law of octaves is correct ? Justify .

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132. Why did Mendeleeff had to leave certain blank spaces in his periodic table ? What is your explanation for this ?

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133. The second period element 'F' has electrons gain enthaly than the third period elements of same group 'Cl ' .Why ?

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134. An element has atomic number 19. where would you expect this element in the periodic table and Why ?

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135. Give reason for the need of classification of element .

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136. x,y and z are the elements of a Dobereiner 's tried .If the atomic mass of $'x'$ is 7 and that of 'z' in 39. what should be the atomic mass of the 'y' ?

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137. Explain the ionizaton energy order in the following sets of elements :

Na,Al,Cl

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138. Explain the ionizaton energy order in the following sets of elements :

Li ,Be,B

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139. Explain the ionizaton energy order in the following sets of elements :

C,N,O

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140. Explain the ionizaton energy order in the following sets of elements :

F,Ne ,Na

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141. Explain the ionizaton energy order in the following sets of elements :

Be ,Mg ,Ca

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142. The electrons configuration of atom A is 2,8,6

What is the atomic number of element A ?

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143. The electrons configuration of atom A is 2,8,6

stable whether the atomic size of element A is bigger or smaller than the atom having atomic number 14 . Why ?

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144. The electrons configuration of atom A is 2,8,6

Which of the elements exhibits similarity in chemical properties as elements A O(8) ,C (6) ,N (7) ,AR (18) .Why ?

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145. The electrons configuration of atom A is 2,8,6

How the element is formed inert gas configuration ?

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146. Mendeleeff classified the known 63 elements in the form of a periodic table. Mention any two things that benefitted study of chemistry, to support above statement.

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147. Explain the salient features and achievements of the Mendeleeff's periodic tble.

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148. Which property of an element is basis in the construction of modern periodic table ?

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149. Define ionization energy.Explain on which the ionization energy depends on .

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150. What is the need to classify elements ?

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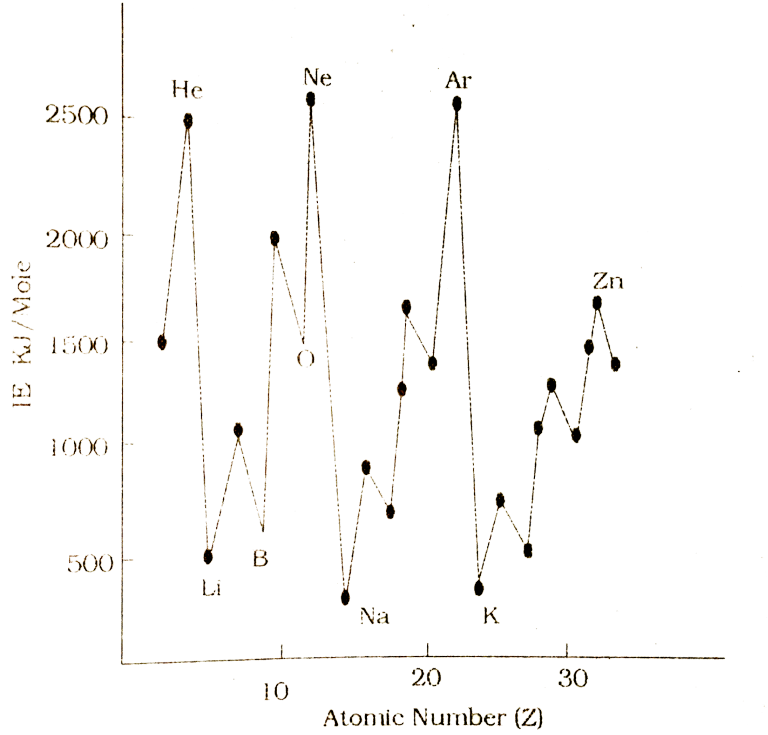
151. Ionization Fotential curve is the group of atomic number versus ionisations energy in KJ / mole . The IP curve is given for elements upto Z = 30 .



Why is there a sudden decreasing in the ionization energy from He to Li ?

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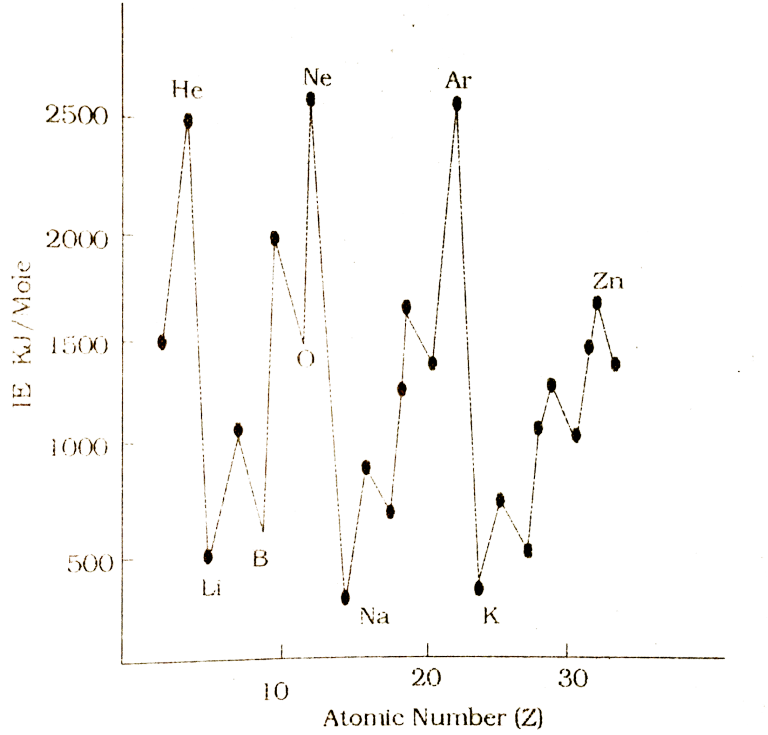
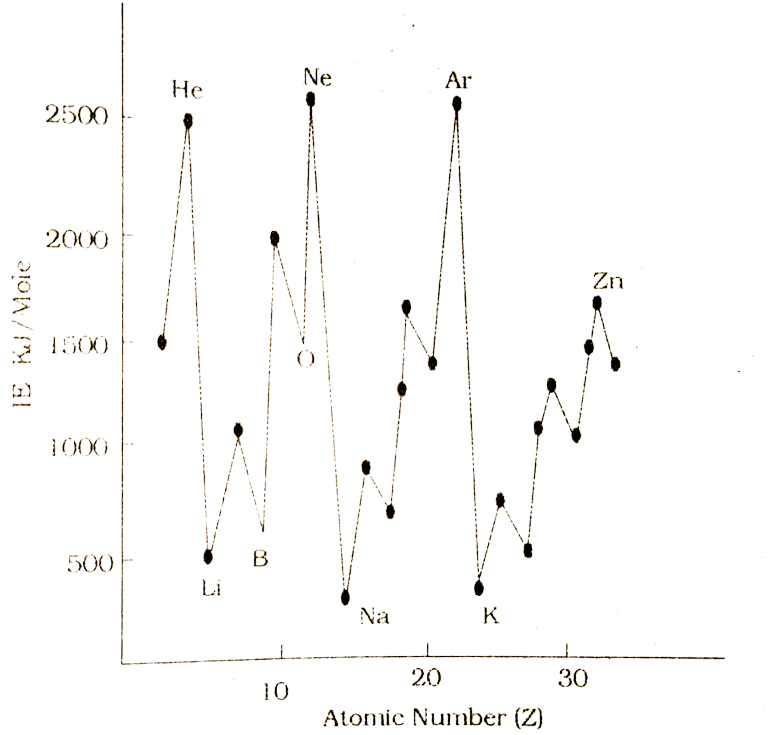
152. Ionization Fotential curve is the group of atomic number versus ionisations energy in KJ / mole . The IP curve is given for elements upto Z = 30 .



Why is there a sudden decreasing in the ionization energy from He to Li ?

Watch Video Solution

153. Ionization Fotential curve is the group of atomic number versus ionisations energy in KJ / mole . The IP curve is given for elements upto Z = 30 .



Why is there a sudden decreasing in the ionization energy from He to Li ?

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154. Ionization potential curve is the graph of atomic number versus ionization energy in $K\frac{J}{M}o \leq$. The IP curve is given for elements upto Z =30. What is the trend of I.P.E in the periods while going from left to reight in the periodic table?

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155. Newlands proposed the law of octaves . Mendeleeff suggested eight groups for elements in his table . How do you explain these observations in terms of modern periodic classification ?

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156. Why was the basis is classificatons of elements changed from the atomic mass to the atomic number ?

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157. Why was the basis is classificatons of elements changed from the atomic mass to the atomic number ?

Watch Video Solution

158. What is a periodic property? How the following properties vary in a group and in a period? Explain

(a) IP.

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159. Elments in a group generally possess similar properties , but elements along a period have different properties .How do you explain this statement ?

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160. Elments in a group generally possess similar properties , but elements along a period have different properties .How do you explain this statement ?

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161. Name two elements that you would expect to have chemical properties similar to Mg . What is the basis for your choice ?

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162. What is a group?

Watch Video Solution

163. What is a period in modern periodic table ?

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164. Mendeleev's eka-aluminium is __

A. 1. Scandium

B. 2. Gallium

C. 3. Germanium

D. 4. Indium

Answer:

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165. Which one of the following elements has more electropositivity ?

A. Chlorine

B. Carbon

C. Oxygen

D. Potassium

Answer:

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166. Number of vertical columns in the modern periodic table are ____(As per IUPAC notation).

A. 7

B. 8

C. 10

D. 18

Answer:

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167. A Dobereiner`s Triad in the following, is .....

A. Cl, Br, I

B. H, He, Li

C. H, Na, Cl

D. C, N, O

Answer:

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168. Which one of the following belongs to the group of atomic weights of Dobereiner triads ?

A. 1. 40, 87.5, 120

B. 2. 40, 87.5, 127

C. 3. 40, 77.5, 137

D. 4. 40, 88.5, 137

Answer:

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169. 11, 12, 13 and 14 are the atomic numbers of the elements Na, Mg, Al and Si respectively. Which element have more atomic radius ?

A. Na

B. Mg

C. Al

D. Si

Answer:

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170. The most electronegative element is

A. CS

B. He

C. F

D. Li

Answer:

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171. Raju : All the known elements at the time of Dobereiner. could not be arranged in the form of triads. Divya : Mendeleeff tried to explain the similarities of elements in the same group in terms of their electron configuration.

A. Both Raju and Divya are correct

B. Raju is correct but Divya is wrong

C. Raju is wrong but Divya is correct

D. Both are wrong

Answer:

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172. (i) Newlands proposed the law of octaves.

ii) The law of octaves was not valid for elements that had atomic masses higher than calcium.

iii) Newlands left blanks for new elements in his periodic table.

Which statement is wrong?

A. 1. (i).

B. 2. (ii).

C. 3. (iii).

D. 4. (ii) and (iii).

Answer:

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173. State and give one example for Dobereiner's law of triads and Newland's law of octaves.

A. Robert boyle

B. Mendeleeff

C. Moseley

D. Doberiener

Answer:

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174. "Select the common point/s' in Dobereiner and Newlands Laws. i) Atomic weights.ii) All the elements available at that time could not be arranged in his law. iii) They followed valency. "

A. (i) and (ii)

B. (i) only

C. (iii) only

D. (ii) only

Answer:

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175. Assertion (A) : Mendeleeff placed "Be, Mg and Ca" in one group.

Reason (R) : When " Be, Mg and Ca" react with oxygen and form BeO, MgO and CaO.

A. 1. A' and 'R' are true and 'R' is supported to 'A'

B. 2. A' and 'R' are true and 'R' is not supported to 'A'

C. 3. A' is true but 'R' is false

D. 4. A' is false but 'R' is true

Answer:

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176. Which one is not a salient features of the Mendeleeff's periodic table. a) Groups and Sub-groups. b) Predicting the properties of missing elements. c) Anomalous series. d) Correction of atomic weights.

A. a

B. b and c

C. d

D. None of the above

Answer:

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177. A: The properties of elements are the periodic functions of their atomic weights. B: The properties of elements are the periodic functions of their atomic numbers.

A. A = Moseley, B = Mendeleeff

B. A = Mendeleeff, B = Moseley

C. A = Doberiener , B = Mendeleeff

D. A = Mendeleff, B = Doberiener

Answer:

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178. Assertion (A) : It is a better way of arranging the elements in the periodic table is according to the increasing atomic number. Reason (R) : This arrangement. according to increasing atomic number eliminated the problem of anomalous series.

A. Both A and R are true and R is a correct explanation of A

B. Both A and Rare true and R is not a correct explanation of A

C. A is true and R is false

D. Both are false

Answer:

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179. Z indicates in the notation $\hat{}\ A._X$ z. i) Number of protons in the atom ii) Number of electrons in the neutral atom. iii) Number of neutrons in the atom.

A. (i) only

B. (i) and (ii) only

C. (i), (ii) & (iii)

D. (i) and (iii) only

Answer:

Watch Video Solution

180. Assertion (A): Na' is a s-block element Reason (R) : 'Na' gets its last coming electron (differentiating electron) into 3s orbital.

A. Both 'A' and 'R' are correct and 'R' supports 'A'

B. Both 'A' and 'R' are correct but 'R' does not supports 'A'

C. A' is correct but 'R' is wrong

D. A' is wrong but 'R' is correct

Answer:

Watch Video Solution

181. Assertion (A) : 'Cl' is a non-metal. Reason (R): Non-metal has five or more electrons in their outer most shell.

A. Both 'A' and 'R' are correct and 'R' is correct explanation of 'A'

B. Both 'A' and 'R' are correct but 'R' is not correct explanation of 'A'

C. A' is correct but 'R' is wrong

D. A' is wrong but 'R' is correct

Answer:

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182. (a) Lanthanoids and actinoids are belongs to 3rd group. b) Lanthanoids and actinoids are called as transition elements.

A. a and b are wrong

B. a and b are correct

C. a is correct but b is wrong

D. a is wrong but b is correct

Answer:

Watch Video Solution

183. Assertion (A) : Lanthanides and Actinides are called as Inner Transition Elements.

Reason (R) : They are the part of Transition Elements.

A. 1. Both A and R are correct but R is correct explanation of 'A'

B. 2. Both A and R are correct but R is not correct explanation of 'A'

C. 3. A is correct but R is wrong

D. 4. A is wrong but R is correct

Answer:

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184. Why do elements in the same group have similar physical and chemical properties.

A. Both 'A' and 'R' are correct and 'R' is correct explanation of 'A'

B. Both 'A' and 'R' are correct but 'R' is not correct explanation of 'A'

C. A' is correct but 'R' is wrong

D. A' is wrong but 'R' is correct

Answer:

Watch Video Solution

185. The pair of elements that have similar chemical properties are

A. R' and 'D' are correct

B. R' is correct but 'D' is wrong

C. R' is wrong but 'D' is correct

D. R' and 'D' are wrong

Answer:

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186. Pavan (P) : The general electronic configuration of alkali metal family is ns^2.Manasa (M) : Alkali metals are placed in 1st group in periodic table.

A. P' and 'M' are correct

B. P is wrong but M is right

C. P' is correct but 'M' is wrong

D. P' and 'M' are wrong

Answer:

Watch Video Solution

187. Assertion (A): 'H' & 'He' belongs to period - 1. Reason (R) : 'H & 'He' contain only one main shell 'K'.

A. Both 'A' and 'R' are correct and 'R' is correct explanation of 'A'

B. Both A and B are correct but R is not correct explanation of A

C. A' is correct but 'R' is wrong

D. A' is wrong but 'R' is correct

Answer:

Watch Video Solution

188. Assertion (A): The first period in periodic table contain only two elements. Reason (R) : 'K' subshell could be occupied by two electrons only, $1s^1$ and $1s^2$.

A. Both 'A and 'R' are correct and 'R' is correct explanation of 'A'

B. Both 'A and 'R' are correct and 'R' is not correct explanation of 'A'

C. A' is correct but 'R' is wrong

D. A' is wrong but 'R' is correct

Answer:

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189. Suneetha (A) : Third period contain 18 elements, because it has 3 subshells namely 3s, 3p and 3d. Sreelatha (B) : Third period has 8 elements, because while electrons are being filled into the shell '3d' gets. electrons only after '4s' is filled.

A. A is correct bu B is wrong

B. A is wrong but B is correct

C. Both are correct

D. Both are wrong

Answer:

Watch Video Solution

190. James (A) : The positive ions of an element has less in size than its neutral atom. Srinu (B) : The negative ion of an element has less in size than its neutral atom.

A. A is correct bu B is wrong

B. A is wrong but B is correct

C. Both are correct

D. Both are wrong

Answer:

Watch Video Solution

191. Balu (B) : Valence of an element with respect to hydrogen is the number of hydrogen atoms with which one atom of that element chemically combines. Venu (V) : Valence of an element with respect to

oxygen is twice the number of oxygen atoms which one atom of that element combines.

A. Both 'B' and 'V' are correct

B. Both B and V are wrong

C. B' is correct but 'V' is wrong

D. B' is wrong but 'V' is correct

Answer:

Watch Video Solution

192. Valeney of Ca is

A. Both 'A' and 'R' are correct and 'R' is correct explanation of 'A'

B. Both A and R ate correct but R is not correct explanation for A

C. A' is correct but 'R' is wrong

D. A' is wrong but 'R' is correct

Answer:

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193. Assertion (A) : Atomic radii increase from top to bottom in a group of the periodic table.

Reason (R) : The number of shells in a group top to bottom increases.

A. 1. Both A and R are correct and R is correct explanation of A

B. 2. Both A and R are correct but R is not correct explanation for A

C. 3.A is true but R is false.

D. 4. A is false and R is true.

Answer:

Watch Video Solution

194. Assertion (A): Atomic radii of elements decrease across a period from left to right.

Reason (R_1): Nuclear charge increases.

Reason (R_2): No. of shells increases.

A. 1. R_1 supports A

B. 2.R_2 supports A

C. 3. R_1&R_2 supports A

D. $4R_1$&R_2 does not supports A

Answer:

Watch Video Solution

195. Assertion (A) : The size of Na^+ ion is less than 'Na' atom. Reason (R_1): Na^+ has more protons than Na atom. Reason (R_2): In general the positive ion (cation) of an element has less size than Its neutral atom.

A. R_1 supports A

B. R_2 supports A

C. R_1&R_2 supports A

D. R_1&R_2 does notsupports A

Answer:

Watch Video Solution

196. It is easier to remove one electron from O than N because Nitrogen has

A. Both 'A' and 'R' are correct and 'R' is correct explanation of 'A'

B. Both A and R are correct but R is not correct explanation for A

C. A is correct but R is wrong

D. a is wrong but R is correct

Answer:

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197. Which of the following property decreases down a group :

A. Atomic radius

B. Electronegativity

C. Electropositivity

D. Metallic nature

Answer:

Watch Video Solution

198. Actinides belongs to __ period.

A. 1. 1

B. 2. 3

C. 3. 5

D. 4. 7

Answer:

Watch Video Solution

199. Ionization energy is not depending on

A. Nuclear charge

B. Shielding effect

C. Penetrating power

D. Electron neutrality

Answer:

Watch Video Solution

200. Moseley calculated the number of positive charges in the atoms by analysing their___.

A. 1. X-ray patterns

B. 2. line spectrum

C. 3. chemical properties

D. 4. α - ray patterns

Answer:

Watch Video Solution

201. Group 13(IIIA) elements are known as___

A. alkali metal family

B. nitrogen family

C. noble gas family

D. boron family

Answer:

Watch Video Solution

202. The incompletely filled period is ___

A. 5

B. 7

C. 4

D. 6

Answer:

Watch Video Solution

203. The inner transition elements are ___ elements.

A. p-block

B. f-block

C. s-block

D. d-block

Answer:

Watch Video Solution

204. Ionization energy increases with the Increase of ___

A. Nuclear charge

B. Atomic radius

C. Screening effect

D. None

Answer:

Watch Video Solution

205. Number of essential elements are

A. 12

B. 11

C. 13

D. 63

Answer:

Watch Video Solution

206. Number of elements from natural sources known in 1940 were....

A. 1. 11

B. 2. 63

C. 3. 91

D. 4. 90

Answer:

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207. Example of Dobereiner's triad is ___

A. Li, Al, Ca

B. Li, Na, K

C. Li, K, Na

D. K, Al, Ca

Answer:

Watch Video Solution

208. Newlands' periodic table restricted to ___ elements.

A. 56

B. 55

C. 50

D. 59

Answer:

Watch Video Solution

209. Newlands octaves first element resembles

A. 6

B. 4

C. 7

D. 8

Answer:

Watch Video Solution

210. Modern periodic table consists of _____ periods and _____ groups.

A. 6

B. 8

C. 5

D. 4

Answer:

Watch Video Solution

211. Mendeleev's eka-aluminium is __

A. Scandium

B. Gallium

C. Germanium

D. Zinc

Answer:

Watch Video Solution

212. Modern periodic table was invented by ___

A. Moseley

B. Dobereiner

C. Mendeleeff

D. Newlands

Answer:

Watch Video Solution

213. Modern periodic table consists of _____ periods and _____ groups.

A. 16 groups, 8 periods

B. 8 groups, 8 periods

C. 18 groups, 8 periods

D. 18 groups, 7 periods

Answer:

Watch Video Solution

214. Elements with electronic configuration ns^1 and ns^2 are called __

A. p-block elements

B. s-block elements

C. d-block-clemerits

D. f-block elements

Answer:

Watch Video Solution

215. Electronic configuration from $ns^2\ np^1$ to $np^2\ np^6$ are called ____

A. s-block elements

B. p-block elementa

C. d-block elements

D. f-block elements

Answer:

Watch Video Solution

216. s and p-block elements are called ___

A. Representative elements

B. Transition elements

C. Inner transition elements

D. Zero group elements

Answer:

Watch Video Solution

217. Name given to IV group element family is _____

A. Alkali family

B. Boron family

C. Carbon family

D. Oxygen family

Answer:

Watch Video Solution

218. What is the general outersheell electronic configuration of alkali metals ?

A. ns^2

B. ns^2np^1

C. ns^2np^4

D. ns^1

Answer:

Watch Video Solution

219. Valency of chlorine is _____

A. 1

B. 2

C. 3

D. 4

Answer:

Watch Video Solution

220. 1 pm=____m

A. 10^{-11}

B. 10^{-12}

C. 10^{-13}

D. 10^{-8}

Answer:

Watch Video Solution

221. Noble gas elements has valency____

A. O

B. 1

C. 2

D. 3

Answer:

Watch Video Solution

222. Elements with electronic configuration ns^2np^6 are called ___

A. Representative elements

B. Transition elements

C. Inner transition elements

D. Noble gases

Answer:

Watch Video Solution

223. _____ block elements are called as lanthanides and actinides in modern periodic table.

A. s

B. p

C. f

D. d

Answer:

Watch Video Solution

224. $4f$ elements are called _____

A. Noble gases

B. Lanthanides

C. Representative elements

D. Actinides

Answer:

Watch Video Solution

225. 5f elements are called _____

A. Actinides

B. Lanthanides

C. Transition elements

D. Representative elements

Answer:

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226. _____ was the basis of the classifications proposed By Dobereiner , Newlands and Mendeleeff .

A. Atomic number

B. Atomic weight

C. Structure of atom

D. Electronic configuration

Answer:

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227. The law of conservation of mass holds good for all of the following except

A. hydrogen

B. carbon

C. calcium

D. argon

Answer:

Watch Video Solution

228. Mendeleeff`s eka - boron was named as _____ after its discovery :

A. Gallium

B. Germanium

C. Silicon

D. Scandium

Answer:

Watch Video Solution

229. Atomic weight = _____

A. Equivalent weight x valency

B. $Equiva \leq ntweigh\frac{t}{V}a \leq ncy$

C. Equivalent weight + valency

D. Equivalent weight

Answer:

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230. The modern periodic table is organized on the basis of

A. atomic weight

B. electronic configuration

C. atomic mass unit

D. physical nature

Answer:

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231. "The law states hat the physical and chemical properties of the elements are periodic functions of their atmic weights ".

A. atomic number

B. atomic weight

C. atomic volume

D. size of the atom

Answer:

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232. The elements with similar outer shell configuration are placed in a __

A. period

B. group

C. block

D. table

Answer:

Watch Video Solution

233. Number of vertical columns in the modern periodic table are ____(As per IUPAC notation).

A. 16

B. 20

C. 24

D. 18

Answer:

Watch Video Solution

234. Periods are based on the _____ present in an atom.

A. electrons

B. no.of orbits

C. no.of main shells

D. colours

Answer:

Watch Video Solution

235. $4f$ elements are called _____

A. s-block

B. transition

C. inner transition

D. inert gases

Answer:

Watch Video Solution

236. _____ of an element was defined as combining power of an element with respect of hydrogen and oxygen.

A. oxidation

B. valency

C. reduction

D. reactivity

Answer:

Watch Video Solution

237. The atomic size in a group from top to bottom _____

A. increases

B. decreases

C. no change

D. first increases then decreases

Answer:

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238. In which units ionizations energy can be expressed ?

A. mol / J

B. KJ.mol

C. J.mol

D. $K . J . mol_{-1}$

Answer:

Watch Video Solution

239. The minimum energy required to remove an election from the outer most orbital of gaseous atom.

A. ionisation energy

B. electronegativity

C. electropositivity

D. oxidizing capacity

Answer:

Watch Video Solution

240. The energy required to remove an electron from unipositive ion is called

A. first ionization energy

B. second ionization energy

C. electropositivity

D. atomic energy

Answer:

Watch Video Solution

241. The energy liberated when an electron is added to a netural gaseous atom is known as _____

A. ionisation energy

B. electronegativity

C. electron affinity

D. reactivity

Answer:

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242. According to Mulliken, electronegativity = _____

A. $\frac{I.E. + E.A}{2}$

B. I.E + E. A

C. 2(I.E. + E.A)

D. 21.E+ E.A

Answer:

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243. Electronegativity values... along a period from left to right.

A. decrease

B. first increases then decreases

C. increase

D. can't measure

Answer:

Watch Video Solution

244. The number of sub-groups in each group of Mendeleeff's periodic table is.....

A. 1

B. 3

C. 2

D. 5

Answer:

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245. Mendeleeff tried to explain similarities of elements in the same group by using their _____

A. valency

B. configuration

C. weight

D. mass

Answer:

Watch Video Solution

246. Eka silicon is now known as

A. gallium

B. germanium

C. cobalt

D. nickel

Answer:

Watch Video Solution

247. Eka means _____

A. three

B. eleven

C. on

D. none

Answer:

Watch Video Solution

248. The anomalous series of elements of mendeleev's periodic table is

A. CO, P

B. Te, I

C. Ni, Te

D. I, Ni

Answer:

Watch Video Solution

249. The number of positive charges in the atom of an element is the _____ of the element.

A. atomic number

B. atomic mass

C. atomic weight

D. atomic volume

Answer:

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250. The group elements are also called as _____

A. groups

B. element family

C. actinoids

D. blocks

Answer:

Watch Video Solution

251. Elements from $_{}^{58}Ce$ to $_{}^{71}Lu$ are called _____

A. lanthanides

B. actinides

C. inert gases

D. transition elements

Answer:

Watch Video Solution

252. Elements from $90Th$ tto$103Lr$ are called ____

A. lanthanides

B. actinides

C. inert gases

D. transition elements

Answer:

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253. The elements with three or less than three electrons in the outer shell are considered as

A. metals

B. gases

C. non-metals

D. liquids

Answer:

Watch Video Solution

254. The elements with five or more electrons in the outer shell are considered as _____

A. metals

B. gases

C. non-metals

D. liquids

Answer:

Watch Video Solution

255. The elements which have properties that are intermediate between the properties of metals and non - metals are called _____

A. metalloids

B. solids

C. liquids

D. gases

Answer:

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256. _____ of an element was defined as combining power of an element with respect of hydrogen and oxygen.

A. Oxidation

B. Reduction

C. Valence

D. Reactivity

Answer:

Watch Video Solution

257. The valency of group VII is _____

A. 3

B. 1

C. 2

D. 0

Answer:

Watch Video Solution

258. How does atomic radius of an element vary across a period from left to right ?

A. decrease

B. increase

C. no change

D. can't say

Answer:

Watch Video Solution

259. What is the property of an element , in which atom can attract electrons towards it - self when it is bounded to the other atom ?

A. electron affinity

B. electropositivity

C. electronegativity

D. ionization energy

Answer:

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260. The metallic character _____ while non metallic character _____ along a period.

A. decrease, increase

B. increase,decrease

C. increase, increase

D. decrease, decrease

Answer:

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261. "The law states hat the physical and chemical properties of the elements are periodic functions of their atmic weights ".

A. Mosley's periodic law

B. Mendeleeff's periodic law

C. Newlands' periodic law

D. Proust's periodic law

Answer:

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262. 'Eka' elements are

A. Precious elements

B. Available in earth

C. Name given by Mendeleeff for missing elements

D. Elements in lanthanides

Answer:

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263. Which of the following relation is correct ?

A. Atomic weight = Equivalent weight x Valency

B. Atomic size = Equivalent weight x Valency

C. Equivalent weight = Atomic weight x Valency

D. All the above.

Answer:

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264. The distance between the nucleus and the outer most orbit is called

A. Ionization energy

B. Atomic radius

C. Electron affinity

D. Atomic volume

Answer:

Watch Video Solution

265. $M^+ + IE_2 = M^{+2}(g) + e^-$ This represents

A. Electron affinity

B. Ionization energy

C. Second ionization energy

D. Electronegativity

Answer:

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266. In a group I.E decreases due to

A. Increase in number of shells

B. Increase in atomic size.

C. Decrease in nuclear charge on valence electrons

D. All the above

Answer:

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267. Which of the following is the property of bonded atom ?

A. Ionization energy

B. Electron affinity

C. Electronegativity

D. Above all

Answer:

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268. Which of the following is the limitation is Mendeleeff's periodic table ?

A. Anomalous pairs

B. Similar elements are placed in separate groups

C. Different elements are placed in same group

D. All the above

Answer:

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269. Periodicity is observed in periodic table due to reappearance of similar valency shell configuration after regular interval of

A. 1. 1, 3, 5, 7, 9

B. 2. 2, 8, 8, 18, 18, 32

C. 3. 5, 10, 15, 20, 25

D. 4. 20, 30, 40, 50

Answer:

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270. One of the following statements is not true. It is

A. As the atomic number increases, the size of the atom decreases in groups.

B. As the atomic number increases, the nuclear charge increases in periods.

C. In group the size of atom increases from top to bottom

D. In a period the size of atom decreases from left to right

Answer:

Watch Video Solution

271. The atomic radius decreases in a period due to

A. Increase in atomic number

B. Nuclear attraction over the electron increases

C. Increase in electron affinity values

D. Increase in ionization energy values

Answer:

Watch Video Solution

272. Valency of an element indicates

A. Equal to number of oxygen atom with which one atom of element combines

B. Double the number of oxygen atom with which one atom of element combines

C. Half of the number of oxygen atom with which one atom of element combines

D. All the above

Answer:

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273. The formula of oxides and chloride of Eka-Silicon is

A. $ESO_2, ESCl_2,$

B. $ES_2O_3, ESCl_4$

C. ESO_2 & $ESCl_4$

D. ESO, ESCl

Answer:

Watch Video Solution

274. Guess the atomic weight of middle element if the atomic weights of first and last elements are 7 and 39 respectively according to Law to triaids.

A. Lithium

B. Sodium

C. Potassium

D. We cannot say

Answer:

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275. Ea_2O_3: ____E_sO_2 : GeO_2 [E_a = Eka aluminium, E_s= Eka silicon]

A. Ga_2O_3,

B. GaO_2

C. CaO_2

D. Ca_2O_3

Answer:

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276. Mendeleeff said about eka-aluminium "If I hold it in my hand, it will melt". Guess the reason.

A. The melting point of 'Ga' is 30.2° C

B. The melting point of 'Ge' is.30.2° C

C. The melting point of 'Sc' is 30.2° C

D. The melting point of 'Al' is 30.2° C

Answer:

Watch Video Solution

277. Which of the following elements are not available at the time of Mendeleeff?

A. Scandium

B. Gallium

C. Germanium

D. Above all

Answer:

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278. Which of the following element does not contain '3s' orbital ?

A. Na

B. Ne

C. K

D. Ca

Answer:

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279. Why are lanthanides and actinides placed separately at the bottom of the periodic table ?

A. To reduce size of periodic table

B. To reduce no. of elements

C. They are not a part of periodic table

D. They are not stable elements

Answer:

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280. If 'He' is not a inert gas, it should be placed in the ___ group.

A. 1st

B. 2nd

C. 17th

D. 18th

Answer:

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281. n = 1: 1s ::n = 2: .....

A. 2s

B. 2s, 2p

C. 1s, 2s

D. 1s, 2s, 2p

Answer:

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282. Guess the period if it has only '8' elements and K, L shells.

A. 1

B. 2

C. 3

D. 4

Answer:

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283. Which one shrinks in size than atom : i) Na^+ ii) Na iii) Cl^- iv) Cl

A. (i) only

B. (iii) only

C. (i) & (iii)

D. (ii) & (iv).

Answer:

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284. The ionization potential of 'Be' is more than 'B'. This is due to

A. Stable electronic configuration in Be

B. Stable electronic configuration in B

C. Electron is removed from more penetrating s- orbital in Be

D. A and C

Answer:

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285. Assertion (A) : The size of Na^+ ion is less than 'Na' atom. Reason (R_1): Na^+ has more protons than Na atom. Reason (R_2): In general the positive ion (cation) of an element has less size than Its neutral atom.

A. More nuclear charge in Na^+

B. More electronegativity, in Na^+

C. Less nuclear charge in Na^+

D. More electronegativity in Na

Answer:

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286. The element at the bottom of a group would be expected to show _____ metallic charcter than the element at the top .

A. low

B. high

C. medium

D. none

Answer:

Watch Video Solution

287. The outermost main shell of an element is 'M' shell. This element belongs to ___ period.

A. 1

B. 2

C. 3

D. 4

Answer:

Watch Video Solution

288. Give example where the electronic configuration of an element does not justify its inclusion in a block of element.

A. Ca

B. Li

C. He

D. Be

Answer:

Watch Video Solution

289. _____ generally show less electronegative character.

A. Nobel gases

B. Gases

C. Metals

D. Non-metals

Answer:

Watch Video Solution

290. The atomic radius of Cl _____ than Cl^- atom.

A. lesser

B. greater

C. equal

D. does not exist

Answer:

Watch Video Solution

291. _____ cannot be decomposed into further substance by a physical or chemical change.

A. Atom

B. Molecule

C. Element

D. Compound

Answer:

Watch Video Solution

292. Which one shrinks in size than atom : i) Na^+ ii) Na iii) Cl^- iv) CI

A. smaller

B. bigger

C. equal

D. can't compare

Answer:

Watch Video Solution

293. Atomic number of the element which has diffe rentiating electron enters into a d-subshell for the first time

A. ris

B. np

C. (n - 1)d

D. (n - 2)f

Answer:

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294. Which of the following is the correct order of electron affinity

A. 1. $I > Br > Cl > F$

B. 2. $F > Cl > Br > I$

C. 3. $Cl > F > Br > I$

D. 4. $Cl > Br > F > I$

Answer:

Watch Video Solution

295. Electron affinity of Fluorine is less than that of Chlorine because

A. smaller size of Cl

B. equal size of Cl with F

C. smaller size of F

D. larger size of F

Answer:

Watch Video Solution

296. Which one of the following ion has the highest value of ionic radius?

A. Na^{+}

B. O^{-2}

C. F^{-}

D. Mg^(+2)

Answer:

Watch Video Solution

297. The size of anion is more than neutral atom. This is due to

A. 1. More nuclear charge in anion than neutral atom

B. 2. Less nuclear charge in anion than neutral atom

C. 3. More number of protons in anion

D. 4. Less number of electrons in neutral atom

Answer:

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298. Which of the following is correct with respect to size ?

A. 1. Atom $<$ Anion $<$ Cation

B. 2. Anion $<$ Atom $<$ Cation

C. 3. Cation $<$ Atom $<$ Anion.

D. 4. Cation $<$ Anion $<$ Atom

Answer:

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299. The I.E of 'N' is more than oxygen even though the size of 'O' is less than 'N'. This is due to

A. Half-filled configuration in 'N'

B. Half-filled configuration in 'O'

C. Full-filled configuration in 'N"

D. Full-filled configuration in 'O'

Answer:

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300. For which of the following elements, the electron affinity values are positive?

A. 1. Alkali metals

B. 2. Alkaline earth metals

C. 3. Halogens

D. 4. Chalcogens

Answer:

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301. Which one does not belongs to Dobereiner's triads ?i) Lithium (7.0) - Sodium (23.0) - Potassium (39.0) ii) Calcium (40.0) - Strontium (88.5) - Barium (137.0) iii) Manganese (55.0) - Selenium (78.0) - Iron (56.0)

A. (i)

B. (ii)

C. (iii)

D. (ii) & (iii)

Answer:

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302. Element $\rightarrow$ H $\rightarrow$ F $\rightarrow$ Cl $\rightarrow$ Co & Ni $\rightarrow$ Br $\rightarrow$ Pd $\rightarrow$ I $\rightarrow$ Pt & Ir

No 1 $\rightarrow$ 8 $\rightarrow$ 15 $\rightarrow$ 22 $\rightarrow$ 29 $\rightarrow$ 36 $\rightarrow$ 42 $\rightarrow$ 50.this classification belongs to___

A. Dobereiner

B. Newlands

C. Mendeleef

D. Moseley

Answer:

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303. Differentiating electrons of some elements are as given, Na = $3s^1$, Al = $3p^1$, Sc = $3d^1$, Ce = $4f^2$ Correct indication of their blocks :

A. Na = s block, Al= p - block, Sc = d- block, Ce = f block

B. Na = p - Block, Al = s- block, Sc=f- block, Ce - d - block

C. Na = p - block, Al = d - block Sc = s - block: Ce = f- block

D. Na =f - block, Al = d - block Sc = p block, Ce = s- block

Answer:

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304. $11_{Na}\ 1s^2\ 2s^2\ 2p^6\ 3s^1$. i) It is a s- block element, ii) It's valency is '1', iii) It can easily form a positive ion

A. i, ii are true

B. ii, iii are true

C. i, iii are true

D. All are true

Answer:

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305. Sc $=1s^2 2s^2 2p^6\ 3s^2 3p^6 s\ 4s^2 3d^1$.this is belongs to

A. s- block

B. p- block

C. d- block

D. f- block

Answer:

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306. $B, Si, Ge,\ As$ are:

A. 1. Metals

B. 2. Metalloids

C. 3. Non-metals

D. 4. We can't say

Answer:

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307. Carbon and Nitrogen belongs to __ groups respectively

A. 6 & 7

B. 13 & 14

C. 14 & 15

D. 15 & 16

Answer:

Watch Video Solution

308. Consider the following changes

a) $M_{(g)}^{+2} \rightarrow M_{(g)}^{+3} + e^{-}$

b) $M_{(g)}^{+} \rightarrow M_{(g)}^{+2} + e^{-}$

d) $M_g \rightarrow M_{(g)}^{+3} + 3e^-$

In Which case more energy is required

A. IE_1

B. IE_2

C. IE_3

D. None

Answer:

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309. Between $_{11}Na$ and $_{17}Cl$, which one has more ionization energy ?

A. $\_\ 11Na$ gt $\_\ 17Cl$

B. $\_\ 11Na$ lt $17Cl$

C. $\_\ 11Na$ = $\_\ 17Cl$

D. A or B

Answer:

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310. Which one is true ?

i) More nuclear charge, more ionization energy.

ii) More screening effect, less ionization energy.

iii) More atomic radius, more ionization energy.

A. 1. (i) & (ii)

B. 2. (ii) & (iii)

C. 3. (i) & (iii)

D. 4. (i) , (ii) & (iii)

Answer:

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311. Penetration power towards nucleus of various orbitals are $4s > 4p > 4d > 4f$. which one has more penetration power between $_{12}Mg$ and $_{13}Al$?

A. BegtB

B. Be lt B

C. Be = B

D. None

Answer:

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312. Electron affinity values in $\left(KJmol^{-}\right)$ F(-328), Cl-(349), Br(-325), I(-295)

i) Electron gain enthalpy decreases as we go down in group.

ii) Electron gain enthalpy decreases as we go left to right in period.

A. 1. (i) is true

B. 2. (ii) is true

C. 3. (i) & (ii) are true

D. 4. (i) & (ii) are false

Answer:

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313. F(4.0), Cl(3.0), Li(1.0), Be (1.47)

Electronegativity values are given in the brackets then,

(i) Metals generally shows high electronegative character.

ii) Metals are electropositive elements

A. 1. (i) is true

B. 2. (ii) is true

C. 3. (i) & (ii) are true

D. 4. (i) & (ii) are false

Answer:

Watch Video Solution

314. B, Si, Ge, As are:

A. (i) is true

B. middle

C. bottom

D. no metalloids

Answer:

Watch Video Solution

315. Element with electronic configuration:

$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2\ 4p^6\ 5s^2\ 5p^3$ belongs to the ___period of periodic table

A. 1. $3rd$

B. 2. $5th$

C. 3. $7th$

D. 4. $2nd$

Answer:

Watch Video Solution

316. In the 5^th period the orbitals being filled are

A. 5s, 5p, 5d

B. 5s, 4p, 5p

C. 5s, 5p, 5f

D. 5s, 5d, 5f

Answer:

Watch Video Solution

317. Which of the following has both members from the same period of the periodic table

A. Li, Be, Cr

B. Al, Si, Ag

C. K, Ca, Co

D. N, O, Br

Answer:

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318. Which of the following is an element in $3^r d$ period II group

A. Mg

B. Cl

C. Ca

D. K

Answer:

Watch Video Solution

319. The metallic character is high among the following

A. 1. Si

B. 2. C

C. 3. B

D. 4. Al

Answer:

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320. The group in which all elements are gases is

A. VIA

B. o

C. IVB

D. VIIA

Answer:

Watch Video Solution

321. The element with atomic number 7 is found in

A. $1^s t$ period IA group

B. $2^n d$ group VA group

C. $2^n d$ period IIIA group

D. $2^n d$ period IVA group

Answer:

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322. What is the similarity in the properties of beryllium and aluminium? Write the reasons for the similarity.

A. scandium

B. gallium

C. germanium

D. venedium

Answer:

Watch Video Solution

323. The element with electronic configuration 2, 8, 8, 3 belongs to ___ block

A. s

B. p

C. d

D. f

Answer:

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324. The most electronegative element is

A. Chlorine

B. Nitrogen

C. Fluorine

D. Oxygen

Answer:

Watch Video Solution

325. Among the following most electropositive element is

A. Hydrogen

B. Fluorine

C. Barium

D. Cesium

Answer:

Watch Video Solution

326. Identfy the metalloid :

A. Carbon

B. Nitrogen

C. Sodium

D. Germanium

Answer:

Watch Video Solution

327. ___is a metal.

A. Hydrogen

B. Bromine

C. Silicon

D. Sodium

Answer:

Watch Video Solution

328. ___is IIA group element.

A. Sodium

B. Magnesium

C. Boron

D. Carbon

Answer:

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329. Number of elements in 6th period of modern periodic table is _____

A. 8

B. 18

C. 32

D. 2

Answer:

Watch Video Solution

330. Noble gases Belong to _____ group of periodic table .

A. 7th group

B. 10th

C. 10th group

D. 0 group or 18th group

Answer:

Watch Video Solution

331. Br belongs to___family.

A. halogen

B. alkali

C. oxygen

D. chalcogen

Answer:

Watch Video Solution

332. The element Mn belongs to _____ block.

A. s

B. p

C. d

D. f

Answer:

Watch Video Solution

333. Metals are at _____ side of the periodic table.

A. left

B. top

C. bottom

D. right

Answer:

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334. Newlands dissimilar elements are _____

A. Copper & cobalt

B. Tin & nickel

C. Cobalt & nickel

D. (i) , (ii) & (iii)

Answer:

Watch Video Solution

335. _____ Block elements are only metals.

A. s

B. p

C. d

D. Tin & cobalt

Answer:

Watch Video Solution

336. ___block elements contains non-metals, metals and metalloids.

A. s

B. p

C. d

D. f

Answer:

Watch Video Solution

337. Si and Ge are _____

A. s

B. p

C. d

D. f

Answer:

Watch Video Solution

338. What is a triad?

A. Li, Na, K

B. Cu, Ag, Au

C. S,Se,Te

D. Cl, Br, I

Answer:

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339. Which pair of elements belongs to the same group ? (atomic numbers are given)

A. 17, 38

B. 20,40

C. 17, 53

D. 11, 53

Answer:

Watch Video Solution

340. Correct order of first ionisation potentials

A. I gt 'I^+' gt 'I^(-)'

B. I gt 'I^-' gt 'I^(+)'

C. I^+' gt' I^(-)' gt I

D. I^(-)' gt I gt 'I^+'

Answer:

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341. Among the following, the period that contains solid, liquid and gaseous elements is

A. VII B

B. VII A

C. VIII A

D. VIII B

Answer:

Watch Video Solution

342. Electonic configuration of an atom is 2,8,7, . To which of the following elements would would it be chemically similar ?

A. Nitrogen (Z = 7)

B. Fluorine (Z=9)

C. Phosphorus (Z = 15)

D. Argon (Z = 18)

Answer:

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343. Which of the following atomic numbers belongs to same period ?

A. 5, 6, 7

B. 1, 3, 5

C. 2, 4, 6

D. 9, 17, 35

Answer:

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344. The scientist___ is appreciable because his attempts gave a clue that atomic weights could be correlated with properties of elements and led to rigorous classification of elements and the modern periodic table of elements.

A. 1. Dobereiner

B. 2. Newlands

C. 3. Mendeleeff

D. 4. Robert Boyle

Answer:

Watch Video Solution

345. ___was honoured and named the 101th element.

A. Dobereiner

B. Newlands

C. Mendeleeff

D. Bohr

Answer:

Watch Video Solution

346. Mendeleeff is appreciable because, he is more than any one else as the originator of the ___

A. 1. Triad.

B. 2. Periodic law

C. 3. Octaves

D. 4. Electronic configuration

Answer:

Watch Video Solution

347. The atomic number concept forced the periodic law to be changed and finally modern periodic table was prepared. For this work ____is appreciable.

A. 1. Dobereiner

B. 2. Newlands

C. 3. Mendeleef

D. 4. Moseley

Answer:

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348. ----------Played a great role in the preparation of modern periodic table

A. 1. Atomic weight

B. 2. Atomic number

C. 3. atomic density

D. 4. atomic size

Answer:

Watch Video Solution

349. The first attempt to classify the elements was made by :

A. Mendeleeff

B. John Newlands

C. Johann Wolfgang Dobereiner

D. Moseley

Answer:

Watch Video Solution

350. The name of 101th elements is__

A. borolinium

B. lanthanivium

C. mendelivium

D. scandinavium

Answer:

Watch Video Solution

351. The atomic weight of 'Be' is___ if the equivalent weight of Be is 4.5 and its valency is 2.

A. 4.5

B. 9

C. 2.75

D. 2.5

Answer:

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