CHEMISTRY

BOOKS - ARIHANT PUBLICATION JHARKHAND

PERIODIC CLASSIFICATION OF ELEMENTS

1. Which of the following is most electronegative ?

A. Lead

B. Silicon

C. Carbon

D. Tin

Answer: C

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2. Group number and valency has no relation in

A. zero group

B. first group

C. IIIrd group

D. VII group

Answer: A

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3. In second period most acidic oxide is formed by

A. F

B. N

C. O

D. Li

Answer: A

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4. On the basis of valencies of elements in a group, the formula of compound formed by tin with fluorine is

A. SnF

B. SnF_3

C. SnF_6

D. SnF_4

Answer: D

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5. In a period, the element with least atomic size is

A. alkali metal

B. halogen

C. inert gas

D. chalcogen

Answer: B

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6. Which of the following has least density?

A. Na

B. Li

C. Mg

D. K

Answer: B

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7. Which of the following groups may contain a metalloid?

A. IA

B. IIA

C. VIA

D. None of these

Answer: C

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8. Name the block in which metals, metalloids, non-metals and inert gases all are present

A. s-block

B. p-block

C. d-block

D. f-block

Answer: B

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9. Which has highest boiling point?

A. CH_4

B. Cl_2

C. H_2

D. Xe

Answer: B

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10. Which of the following has the smallest radius?

A. O^{2-}

B. F^{-}

C. Li^{+}

D. Be^{2+}

Answer: D

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11. The cation which is least stable is

A. Li^+

B. K^+

C. Al^{+2}

D. Si^{2+}

Answer: C

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12. The number of periods in Mendeleev's periodic table is

A. 16

B. 8

C. 9

D. 7

Answer: D

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13. The least electronegative element in the periodic table is

A. Na

B. Rb

C. Cu

D. Xe

Answer: D

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14. Element with atomic number 17 has its place in periodic table

A. III period, VIl group

B. VIl period, VIl group

C. IV period, VIl group

D. II Period, VI group

Answer: B

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15. The only metal which is liquid at $0^{\circ} C$ is

A. Iron

B. mercury

C. sodium

D. aluminium

Answer: B

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16. Which one has least ionisation potential?

A. N

B. O

C. F

D. Ne

Answer: B

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17. In III rd period, the most acidic oxide is formed by

A. Na

B. P

C. Cl

D. S

Answer: C

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18. The element with electronic configuration $3d^5 4s^1$ is

A. metalloid

B. non-metal

C. transition element

D. metal

Answer: C

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19. VIII group of periodic table contains

A. 6 elements

B. 12 elements

C. 3 elements

D. 9 elements

Answer: D

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20. Which of the following has the largest ionic radius ?

A. Be^{2+}

B. Mg^{2+}

C. Ca^{2+}

D. Sr^{2+}

Answer: D

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21. The telluric helix was given by

A. Newlands

B. Mendeleev

C. Lothar Meyer

D. Dechen Courtious

Answer: D

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22. An element has electronic configuration 2, 8,18, 7. Its place in periodic table is in

A. I group

B. II group

C. VII group

D. VIII group

Answer: C

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23. Which of these ions is smallest in size?

A. O^{2-}

B. C^{4-}

C. F^{-}

D. N^{3-}

Answer: C

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24. Downwards in a group, the electropositive character of elements

A. Increases

B. decreases

C. remains same

D. None of these

Answer: A

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25. The first attempt to classify elements was made by

A. Mendeleev

B. Lothar Meyer

C. Newlands

D. Doberelner

Answer: D

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26. Which pair of elements is chemically most similar?

A. Na, Al

B. Cu, S

C. Ti, Zr

D. Zr, Hf

Answer: D

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27. Transition elements are

A. Fe, Co, Nl

B. Li, Na, K

C. Cl, Br, I

D. Ba, Sr, Ca

Answer: A

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28. The three elements having chemical symbols of Si, B and Ge are

A. all metals

B. all non-metals

C. Si is metal, B and Ge are non-metals

D. all metalloids

Answer: D

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29. Which of the following compounds are analogous to the lanthanides?

A. Actinides

B. Borides

C. Carbides

D. Hydrides

Answer: A

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30. Which of the following order of ionisation energy is correct?

A. $Be < B < C < N < O$

B. $B < Be < C < O < N$

C. $Be > B > C > N > O$

D. $B < Be < N < C < O$

Answer: B

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31. Which of the following is a non-metal?

A. Gallium

B. Indium

C. Boron

D. aluminium

Answer: C

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32. In which of the following, the tendency towards the formation of coloured ion is maximum?

A. s-block elements

B. d-block elements

C. p-block elements

D. All of these

Answer: B

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33. The first IP in eV of N and O are respectively

A. 14.6, 13.6

B. 13.6, 14.6

C. 13.6, 13.6

D. 14.6, 14.6

Answer: A

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34. In the following, the element with the highest electropositivity is

A. copper

B. cesium

C. barium

D. chromium

Answer: B

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35. Which of the following is known as wonder element?

A. Zr

B. Zn

C. Ti

D. None of these

Answer: C

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36. Which of the following species has lowest ionisation potential?

A. O_2

B. O

C. O_2^+

D. O_2^-

Answer: D

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37. Which of the following has maximum density?

A. Fe

B. Cu

C. B

D. Pb

Answer: D

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38. Number of unpaired electrons in inert gas is

A. 0

B. 8

C. 4

D. 18

Answer: A

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39. Which is isoelectronic with hydride ion?

A. He

B. He^+

C. Li^+

D. H^+

Answer: A

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40. First ionisation potential of Mg is .... than that of Al.

A. less

B. more

C. equal

D. None of these

Answer: B

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41. Who developed the long form of periodic table?

A. Lothar Meyer

B. Niels Bohr

C. Mendeleev

D. Moseley

Answer: B

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42. The base of modern periodic table is

A. atomic weight

B. atomic number

C. atomic volume

D. atomic energy

Answer: B

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43. Dobereiner triad is

A. Na, K, Rb

B. Mg, S, As

C. Cl, Br, I

D. P, S, As

Answer: C

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44. Zero group was introduced by

A. Lothar Meyer

B. Mendeleev

C. Ramsay

D. Lockyer

Answer: C

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45. Which of the following statement about the modern periodic table is correct?

A. It has 7 vertical columns known as periods

B. It has 8 horizontal rows known as groups

C. It has 18 vertical columns known as groups

D. It has 9 horizontal rows known as periods

Answer: C

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46. Which of the following has the lowest ionisation potential?

A. $3d^2$

B. $4s^1$

C. $2p^6$

D. $3p^5$

Answer: B

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47. If an element X forms an oxide X_2O_3, then find the group in Mendeleev's periodic table where it is placed

A. group III

B. group V

C. group VII

D. group VIII

Answer: A

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48. In which of the following carbon is most electronegative?

A. sp

B. sp^2

C. sp^3

D. Same in all

Answer: A

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49. C and Si are placed in the same group, because

A. both form chlorides with chlorine

B. both react with hydrogen

C. both have name number of electrons in their outermost orbit

D. both form oxide with oxygen

Answer: C

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50. Which of the following has highest melting point?

A. NaCl

B. NaBr

C. NaF

D. NaI

Answer: D

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51. Which of the following is not a periodic property?

A. Density

B. Atomic volume

C. Atomic radii

D. Ionisation potential

Answer: A

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52. The alkali metals

A. form salt like hydrides

B. form salts which are predominantly covalent

C. show decreased chemical reactivity with dry oxygen in going from Li to Cs

D. show increasing electronegativity from Li to Cs

Answer: A

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53. If an element is in fifth group, then with respect to the hydrogen, it has valency

A. 6

B. 5

C. 3

D. 2

Answer: C

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54. Which of the following is not the characteristics of alkali metals?

A. Low melting point

B. Low electronegativity

C. High ionisation energies

D. Highest reducing power in its period

Answer: C

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55. The alkali metals are strong reducing agents due to

A. low ionisation energy

B. large ionic radii

C. high enthalpy of hydration

D. low potential value

Answer: A

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56. Which of the following is paramagnetic?

A. H_2O

B. K_2O

C. Na_2O_2

D. KO_2

Answer: D

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57. A trend common to both alkali metals and halogens is that as the atomic number increases

A. atomic radius increases

B. boiling point increases

C. electronegativity increases

D. reactivity with water increases

Answer: A

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58. Which of the following has density greater than water?

A. Li

B. Na

C. K

D. Cs

Answer: D

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59. With the increase in atomic weights,melting points of the alkali metals

A. increase

B. decrease

C. remains constant

D. do not show definite trend

Answer: B

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60. Compared with alkaline earth metals, the alkali metals exhibit

A. smaller ionic radii

B. greater hardness

C. high boiling point

D. lower ionisation energies

Answer: D

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