

ATOM and ITS STRUCTURE

1. If ${}_{12}\text{X}^{+2}$ and Y^{-2} have the same number of electrons, what is the atomic number of Y?
2. If X^{+2} have 28 electrons and 35 neutrons, what is the atomic mass number of X?
3. If atomic mass number of ${}_{24}\text{Cr}$ is 51, what is the number of neutrons of Cr?
4. How many neutrons are there in NH_4^+ ion?
(${}^{14}_7\text{N}$, ${}^1_1\text{H}$)
5. Atomic mass number and electron number of X^n are 52 and 22 respectively. If its neutron number is greater than proton number by 4. What is the n?
6. Atomic mass number of X^{+2} is 65. If its neutron number is greater than its atomic number by 5, what is the electron number of this ion?
7. Ion X^n has the atomic mass number 56 and electron number 23. If neutron number of X is more than atomic number by 4, what is the charge of this ion?
8. XO_4^{3-} has 50 electrons and 48 neutrons. What is the atomic mass number (A) of X? (${}^{16}_8\text{O}$)
9. Which one is the molecular mass of the compound formed between ${}^{27}_{13}\text{X}$ and ${}^{32}_{16}\text{Y}$ elements?
10. Find neutron number, proton number, electron number and atomic mass number of ${}^{52}_{24}\text{Cr}^{6+}$.
11. What is the electron capacity of the 3rd shell?
12. What is the charge of an ion that contains 24 protons, 28 neutrons and 22 electrons?
13. What is the atomic mass number of Cl^{1-} which has 18 electrons and 18 neutrons?
14. Barium has 81 neutrons in its nucleus. What is the proton number of barium if its atomic mass number is 137?
15. X^{3+} cation has 23 electrons and 30 neutrons. What is the atomic number of X?
16. How many electrons are there in ${}_{34}\text{Se}^{-2}$ ion?
17. An atom contains 15 protons, 18 electrons and 16 neutrons. What is the charge of this atom?
18. X^{1+} and Y^{2-} ions have equal number of electrons. What is the atomic number of X, if the atomic number of Y is 16?
19. X and Y are isotopes of the same atom. If electron number of X^{1-} is 18 and the atomic mass number of Y is 37, what is the neutron number of Y?
20. Al^{+3} and O^{-2} ions have the same number of electrons. If the atomic number of aluminum is 13, what is the proton number of oxygen?
21. X^{+3} ion's mass number is 70 and has 28 electrons. What is the number of neutrons of X?
22. What is the atomic mass number of Fe^{+3} that has 23 electrons and 30 neutrons?
23. X^{+1} ion has 18 electrons and 20 neutrons. What is the atomic mass number of X?
24. Ions X^{+2} and Y^{-3} have the same number of electrons. What is the number of protons of Y, if the atomic number of X is 12?
25. X^{-1} has 74 neutrons and 54 electrons. What is the difference between the atomic mass number and the number of protons of X?
26. What is the electron capacity of 5th shell?
27. ${}_{18}\text{X}$ and an ion of ${}_{16}\text{Y}$ have equal number of electrons. What is the charge of the Y ion?
28. What is the electron capacity of 7th shell in an atom?
29. ${}_{12}\text{Mg}^{2+}$ and O^{2-} have the same number of electrons. If the number of protons of O is equal to its number neutrons, what is the atomic mass number of O?
30. The mass number of P^{3-} , which has 18 electrons, is 31. Find the number of neutrons of phosphorous atom.
31. If the compound of X_aY_b formed between ${}_{13}\text{X}$ and ${}_{16}\text{Y}$, what is the ratio of a/b?
32. ${}^{37}\text{X}$ and ${}^{35}_{17}\text{Y}$ are isotopes of each other. What is the number of neutrons of X?
33. The atomic mass of Ca^{2+} is 40. Atomic nr of Ca^{2+} is equal to its number of neutrons. If the number of

electrons of Ca^{2+} and S^{2-} is equal, what is the atomic number of S^{2-} ?

34. How many electrons are there in a compound formed by ${}_{11}\text{X}$ and ${}_{16}\text{Y}$?

35. X^{3+} ion whose mass number 70, has 28 electrons. What is the number of neutrons X?

36. ${}^{207}\text{Pb}$ has 125 neutrons. How many electrons are there in one neutral Pb atom?

37. Ions X^{2+} and Y^{3-} have the same number of electrons. What is the number of protons of Y, if the atomic mass of X is 20 and the number of neutrons of X is 10?

38. If X^{3+} ion takes 3 electrons and Y^{2-} ion gives 5 electrons, their number of electrons will be the same. What is the difference between the atomic numbers of X and Y?

39. The molecule of X_3Y_2 has 50 electrons. If the ions of X^{2+} and Y^{3-} has the same number of electrons, what is the atomic number of X?

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