**Reg. NO:**

**TIME: 45 MIN**

**DATE: 4.4.20**

**ATOMIC STRUCTURE-PRACTICE SHEET-01**

**SUBJECT: CHEMISTRY**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | Choose the incorrect relation on the basis of Bohr’s theory | | | | | | | |
|  | a) | Velocity of electron | | | b) | Frequency of revolution | | |
|  | c) | Radius of orbit | | | d) | Force on electron | | |
| 2. | -rays were discovered by : | | | | | | | |
|  | a) | Becquerel | b) | Roentgen | c) | Mme. Curie | d) | Van Laue |
| 3. | Two electrons in the same orbital may be identified with: | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 4. | An electron has principal quantum number 3. The number of its (i) subshells and (ii) orbitals would be respectively: | | | | | | | |
|  | a) | 3 and 5 | b) | 3 and 7 | c) | 3 and 9 | d) | 2 and 5 |
| 5. | Maximum number of electrons in a subshell of an atom is determined by the following: | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 6. | Particle having mass 200 times that of an electron is: | | | | | | | |
|  | a) | Proton | b) | Positron | c) | Meson | d) | Neutron |
| 7. | Which of the following has the maximum number of unpaired electrons? | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 8. | An electron from one Bohr stationary orbit can go to next higher orbit | | | | | | | |
|  | a) | By emission of electromagnetic radiation | | | | | | |
|  | b) | By absorption of any electromagnetic radiation | | | | | | |
|  | c) | By absorption of electromagnetic radiation of particular frequency | | | | | | |
|  | d) | Without emission or absorption of electromagnetic radiation | | | | | | |
| 9. | How many neutrons are present in tritium nucleus? | | | | | | | |
|  | a) | 2 | b) | 3 | c) | 1 | d) | 0 |
| 10. | The number of wave made by an electron moving in an orbit having maximum magnetic quantum number is : | | | | | | | |
|  | a) | 4 | b) | 3 | c) | 5 | d) | 6 |
| 11. | The wavelength of a spectral line emitted by hydrogen atom in the Lyman series is. What is the value of (=Rydberg constant) | | | | | | | |
|  | a) | 2 | b) | 3 | c) | 4 | d) | 1 |
| 12. | The statements, which is/are correct: | | | | | | | |
|  | a) | Number of total nodes in an orbital | | | | | | |
|  | b) | Number of radial nodes in an orbital | | | | | | |
|  | c) | Number of angular nodes in an orbital | | | | | | |
|  | d) | All of the above | | | | | | |
| 13. | If the wavelength of an electromagnetic radiation is 2000Å, what is its energy in ergs? | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 14. | Number of unpaired electrons in the electronic configuration | | | | | | | |
|  | a) | 2 | b) | 3 | c) | 4 | d) | 6 |
| 15. | A strong argument for the particle nature of cathode rays is that they: | | | | | | | |
|  | a) | Produce fluorescence | | | | | | |
|  | b) | Travel through vacuum | | | | | | |
|  | c) | Get deflected by electric and magnetic fields | | | | | | |
|  | d) | Cast shadow | | | | | | |
| 16. | The electronic configuration correctly describes: | | | | | | | |
|  | a) | Ground state of | b) | Ground state of | c) | Excited state of | d) | Excited state of |
| 17. | What accelerating potential is needed to produce an electron beam with an effective wavelength of 0.090Å? | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 18. | Which of the following pairs have identical values of ? | | | | | | | |
|  | a) | A proton and a neutron | | | b) | A proton and deuterium | | |
|  | c) | Deuterium and an -particles | | | d) | An electron and -rays | | |
| 19. | Positive charge in an atom is: | | | | | | | |
|  | a) | Scattered all over the atom | | | | | | |
|  | b) | Concentrated in the nucleus | | | | | | |
|  | c) | Revolving around the nucleus | | | | | | |
|  | d) | None is true | | | | | | |
| 20. | (at. No. of ) has a magnetic moment of The correct distribution of electrons in the chromium of the complex: | | | | | | | |
|  | a) |  | | | | | | |
|  | b) |  | | | | | | |
|  | c) |  | | | | | | |
|  | d) |  | | | | | | |
| 21. | The mass of an electron is , its charge is and it is accelerated from rest through a potential difference, . The velocity of electron will be calculated by formula | | | | | | | |
|  | a) |  | b) |  | c) |  | d) | None of these |
| 22. | The present atomic weight scale is: | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 23. | Which one of the following set of quantum numbers is not possible for electron in the ground state of an atom with atomic number 19? | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 24. | Oxygen consists of isotopes and carbon consists of isotopes of and Total number of molecules possible are: | | | | | | | |
|  | a) | 6 | b) | 12 | c) | 18 | d) | 1 |
| 25. | In order to designate an orbital in an atom, the number of quantum number required are: | | | | | | | |
|  | a) | 1 | b) | 2 | c) | 3 | d) | 4 |
| 26. | For a given value of azimuthal quantum number the total number of values for the magnetic quantum number are given by: | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |
| 27. | Magnetic quantum number for the last electron in sodium is: | | | | | | | |
|  | a) | 3 | b) | 1 | c) | 2 | d) | Zero |
| 28. | The uncertainty principle can be applied to: | | | | | | | |
|  | a) | A cricket ball | b) | A football | c) | A jet | d) | An electron |
| 29. | Isotopes are | | | | | | | |
|  | a) | Atoms of different elements having same mass number | | | | | | |
|  | b) | Atoms of same elements having same mass number | | | | | | |
|  | c) | Atoms of same elements having different mass number | | | | | | |
|  | d) | Atoms of different elements having same number of neutrons | | | | | | |
| 30. | Which element possess non-spherical shells? | | | | | | | |
|  | a) |  | b) |  | c) |  | d) |  |