

21. When an electron is moving with velocity of $2.188 \times 10^6 \text{ ms}^{-1}$ in the first orbit of Bohr's model of hydrogen. The de Broglie wavelength of electron is

A. 0.33 nm

B. 0.34 nm

C. 0.35 nm

D. 0.36 nm

Answer: Option A

22. On heating aldehydes with Fehling's solution we get a precipitate whose colour is

A. pink

B. black

C. yellow

D. brick red

Answer: Option D

23. When methyl iodide and ethyl iodide are treated with sodium metal possible major products are obtained.

A. 1

B. 2

C. 3

D. 4

Answer: Option C

24. Which of the following rays has greater frequency.

A. γ -rays

B. β -rays

C. α -rays

D. X-rays

Answer: Option C

25. Which statement is consistent with Hund's rule.

A. Electrons fill orbitals with parallel spins until all the orbitals of the same energy are half filled then they go into subshells with anti-parallel (opposite) spin.

B. The electrons in the same atom cannot have the same four quantum numbers

- C. There is maximum of two electrons in an orbital. D. None

Answer: Option A

26. What is maximum number of electrons in an orbital with m (magnetic quantum number) = 3

- A. 6 B. 4
C. 3 D. 2

Answer: Option D

27. Atomic number of Mn is 25 what is the electronic configuration in the ground state

- A. $1s^2 2s^2 2p^6 3s^2 3p^6 3d^7$ B. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 4p^5$
C. $1s^2 2s^2 2p^6 3s^2 3p^5 3d^{10}$ D. $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^5$

Answer: Option D

28. Which of the following statement is correct

- A. size of Cl atoms > Cl⁻ ion B. size of Na⁺ ion < Na atom
C. size of Na atom < Na⁺ ion D. Cl⁻ < Na⁺

Answer: Option B

29. Which of the following is mineral fibre.

- A. teflon B. asbestos
C. saran D. acrylic

Answer: Option B

30. Which catalyst is used in contact process?

A. Fe₂O₃

B. V₂O₅

C. SO₃

D. Ag₂O

Answer: Option B

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