9. Which of the following sets of atomic numbers corresponds to elements of group 16 ?
(a) 8, 16, 32, 54 (b) 16, 34, 54, 86
(c) 8, 16, 34, 52 (d) 10, 16, 32, 50

10. The atomic numbers of the metallic and non-metallic elements which are liquid at room temperature respectively are :
(a) 55, 87 (b) 33, 87 (c) 35, 80 (d) 80, 35

11. In the periodic table, metallic character of the elements shows one of the following trend :
(a) Decreases down the group and increases across the period
(b) Increases down the group and decreases across the period
(c) Increases across the period and also down the group
(d) Decreases across the period and also down the group

12. Nucleus of an element contains 9 protons. It's valency would be :
(a) 1 (b) 2 (c) 3 (d) 5

13. Transition metals are not characterized by :
(a) fixed valency (b) coloured compound
(c) high melting and boiling points (d) tendency to form complexes

14. Sodium generally does not shown oxidation state of +2, because of its :
(a) High first ionisation potential (b) High second ionization potential
(c) Large ionic radius (d) High electronegativity

15. Which of the following pairs of molecules have the almost identical bond dissociation energy?
(a) F_2 and H_2 (b) N_2 and CO (c) F_2 and I_2 (d) HF and O_2

16. According to modern periodic law the properties of elements repeat at regular intervals when the elements are arranged in order of :
(a) decreasing atomic number (b) increasing atomic weight
(c) increasing atomic number (d) decreasing atomic weights

17. Give the symbol of the elements of lowest atomic number that has three 2*p* electrons :
(a) Mg (b) P (c) N (d) Si

18. In the fourth period of the periodic table, how many elements have one or more 4*d* electrons?
(a) 2 (b) 18 (c) 0 (d) 6

19. Assuming that elements are formed to complete the seventh period, what would be the atomic number of the alkaline earth metal of the eighth period?
(a) 113 (b) 120 (c) 119 (d) 106

20. Which of the following represents an excited state of an atom?
(a) $[Ne]3s^2 3p^6 4s^2 3d^8$ (b) $[Ne]3s^2 3p^6 4s^1 3d^5$
(c) $[Ne]3s^2 3p^6 4s^2 3d^1$ (d) $1s^2 2s^2 2p^5 3s^1$

21. Choose the correct statement regarding transition elements?
(a) Transition elements has low melting points
(b) Transition elements do not have catalytic activity
(c) Transition elements exhibit variable oxidation states
(d) Transition elements exhibit inert pair effect

22. Which one of the following is a different pair?
(a) Li, Na (b) Be, Ba (c) N, As (d) O, At

23. The element having electronic configuration $[Kr]4d^{10}4f^{14},5s^2 5p^6,6s^2$ belongs to :
(a) *s*-block (b) *p*-block (c) *d*-block (d) *f*-block

24. Which element is named after the name of a planet is ?
(a) Hg (b) Po (c) Pu (d) Ra

25. Zn and Cd metals do not show variable valency because :
(a) They have only two electrons in the outermost subshells
(b) Their *d*-subshells are completely filled
(c) Their *d*-subshells are partially filled
(d) They are relatively soft metals

26. An element whose IUPAC name is ununtrium (Uut) belongs to :
(a) *s*-block element (b) *p*-block element
(c) *d*-block element (d) Transition element

27. Which of the following is not representative element ?
(a) Tellurium (b) Tantalum
(c) Thallium (d) Astatine

28. The period number and group number of "Tantalum" ($Z = 73$) are respectively :
(a) 5, 7 (b) 6, 13 (c) 6, 5 (d) None of these

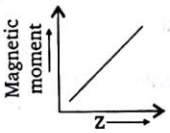
29. Which of the following pair of elements belong to the same period?
(a) Mg and Sb (b) Ca and Zn
(c) Na and Ca (d) Ca and Cl

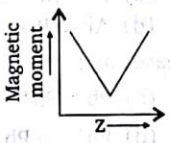
30. Consider the following electronic configuration of an element(P) :
$[Xe]4f^{14}5d^1 6s^2$
Then correct statement about element 'P' is :
(a) It belongs to 6th period and 1st group (b) It belongs to 6th period and 2nd group
(c) It belongs to 6th period and 3rd group (d) None of these

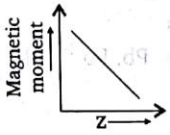
31. Which of the following metal is highest electropositive (metallic) in nature ?
(a) Be (b) Rb (c) Mn (d) Tl

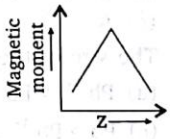
32. Which of the following species must have maximum number of electrons in 'd_{xy}' orbital ?
(a) Cr (b) Fe^{3+} (c) Cu^+ (d) Both (a) and (b)

33. Which of the following graph is correct representation between atomic number (Z) and magnetic moment of *d*-block elements? [Outer electronic configuration : $(n-1)d^x ns^{1 \text{ or } 2}$]

(a) 

(b) 

(c) 

(d) 

34. If IUPAC name of an element is "ununnium" then correct statement regarding element is :
(a) It is a inner transition element (b) It belongs to 8th period in periodic table
(c) It is transition element (d) It is a non-transition element

35. Which property decreases from left to right across the periodic table and increases from top to bottom?
(i) Atomic radius (ii) Electronegativity (iii) Ionisation energy (iv) Metallic character
(a) (i) only (b) (i), (ii) and (iii)