ADDITIONAL MULTIPLE CHOICE QUESTIONS

1. Matter is composed of tiny indivisible particles called:
(a) Element (b) Atom (c) Compound (d) substance

2. Atom of the same elements are
(a) Different (b) Alike (c) Comparable (d) Active

3. Gas discharge tube experiment was performed by:
(a) J.J. Thomson (b) Rutherford (c) Dalton (d) William Crooks

4. The pressure inside the discharge tube for the discovery of electron was kept
(a) 10^{4} atm (b) 10^{-4} atm (c) 10^{14} atm (d) 10^{-14} atm

5. Who was the pioneer of the vacuum tubes?
(a) William Crooks (b) Rutherford (c) Bohr (d) Dalton

6. The nature of canal rays depends upon:
(a) Nature of anode (b) Nature of Cathode
(c) Nature of gas (d) Nature of particles

7. The mass of proton is _____ times more than that of an electron:
(a) 1830 (b) 1840 (c) 2 (d) 3

8. Which one of the followings is produced by the bombardment of the helium particle on beryllium?
(a) Alpha particle (b) Beta particle (c) Neutron (d) Gamma rays

9. The highly penetrating rays are:
(a) Alpha particle (b) Beta particle (c) Neutron (d) Both a & b

10. Neutron was discovered by
(a) Rutherford (b) Chadwick (c) Bohr (d) William Crooks

11. In α -scattering experiment Rutherford used the foil made up of:
(a) Silver (b) Tin (c) Platinum (d) Gold

12. Alpha particles are emitted by radioactive element:
(a) Carbon (b) Polonium (c) Neon (d) Vanadium

13. Rutherford used the photographic plate coated with
(a) Zinc sulphide (b) Zinc sulphite (c) Zinc oxide (d) Zinc sulphate

14. Who is the father of nuclear chemistry?
(a) Rutherford (b) Dalton (c) William Crooks (d) Joseph Proust

15. According to quantum theory which type of spectrum is shown?
(a) Continuous spectrum (b) Line spectrum
(c) Emission spectrum (d) Absorption spectrum

16. Which of the following are fundamental particles of an atom?
(a) Ion (b) Molecular ion (c) Electron (d) Positron

17. Matter is composed of tiny indivisible particles called:
(a) Ion (b) Free radical (c) Atoms (d) Molecules

18. The meaning of Latin word 'atom' is:
(a) Chroma (b) Divisible (c) Atomos (d) Same place

19. Rutherford used a thin sheet of gold of thickness:
(a) 0.00004cm (b) 0.004cm (c) 0.0004cm (d) 0.04cm

20. Canal rays were discovered by:
(a) Goldstein (b) Thomson (c) Dalton (d) William Crooks

21. Protons were discovered by:
(a) Thomson (b) Chadwick (c) Moseley (d) Goldstein

22. Rutherford bombarded a thin sheet of gold with:
(a) α-particles (b) β-particles (c) γ-particles (d) x-rays

23. Which apparatus was used by Sir William Crooks in his experiment?
(a) Test tube (b) Gas discharge tube (c) Zinc plate (d) Electrolytic cell

24. Which are three fundamental particles of an atom?
(a) Ion, radicals, free radicals (b) Electrons, protons, neutrons
(c) Electrons, protons, cathode rays (d) Canal rays, x-rays, gamma rays

25. The electrons revolve around the:
(a) Atom (b) Nucleus (c) Protons (d) Neutrons

26. Nature of gas present in discharge tube affects the nature of:
(a) Canal rays (b) x-rays (c) Cathode rays (d) β-rays

27. Alpha particles are basically nucleus of:
(a) Lithium (b) Sodium (c) Potassium (d) Helium

28. Plum pudding model was put forwarded by:
(a) Dalton (b) Thomson (c) Goldstein (d) Chadwick

29. Neil Bohr won the noble prize in:
(a) 1914 (b) 1918 (c) 1922 (d) 1926

30. Canal rays travel in a straight line in a direction _____ to cathode rays.
(a) Opposite (b) Same (c) Parallel (d) None of these

31. Rutherford, Moseley, Bohr and other scientists performed experiments and revealed that:
(a) Atom has complex nature (b) Atom is neutral
(c) Atom can be divisible (d) Atom is beyond understanding

32. Canal rays carry:
(a) +ve charge (b) –ve charge (c) Neutral (d) None of these

33. Which isotope of carbon is in abundance?
(a) ^{12}C (b) ^{13}C (c) ^{14}C (d) Both a and b

34. Isotopes have different number of :
(a) Electron (b) Proton (c) Neutron (d) Charge

35. Energy of N-shell is more than the energies of:
(a) K (b) K, L (c) K, L, M (d) L, M

36. Quantum means:
(a) Fixed volume (b) Fixed energy (c) Fixed pressure (d) Fixed temperature

37. The subshells of M-shell are:
(a) s, p (b) s, p, d (c) s, p, d, f (d) s, d, f

38. N-shell can accommodate a maximum of ____ electrons.
(a) 8 (b) 2 (c) 18 (d) 32

39. Which one is the electronic configuration of Cl^{-1}?
(a) $1s^2, 2s^2, 2p^6, 3s^1$ (b) $1s^2, 2s^2, 2p^6, 3s^2, 3p^6$
(c) Both a and b (d) None of these

40. Which one is the electronic configuration of sulphur?
(a) $1s^2, 2s^2, 2p^6, 3s^2, 3p^6,$ (b) $1s^2, 2s^2, 2p^6, 3s^2, 3p^6$
(c) $1s^2, 2s^2, 2p^6, 3s^2, 3p^4$ (d) $1s^2, 2s^2, 2p^6, 3s^2, 3p^3$

41. The value of Planck's constant is:
(a) 6.62×10^{-34} Js (b) 6.62×10^{-24} Js (c) 6.62×10^{-19} Js (d) 6.62×10^{-12} Js

42. Which one of the followings results in the discovery of proton?
(a) Cathode rays (b) Canal rays (c) x-rays (d) Alpha rays

43. The concept of orbit was introduced by:
(a) J.J. Thomson (b) Rutherford (c) Bohr (d) Planck

44. **Deutrium is used to make:**
(a) Light water (b) Heavy water (c) Soft water (d) Hard water

45. **Co-60 is the source of:**
(a) X-rays (b) Beta radiations (c) Alpha particles (d) Gamma rays

46. **For the production of cathode rays the pressure of gas inside the discharge tube was Kept:**
(a) 10^{-1}atm (b) 10^{-2}atm (c) 10^{-4}atm (d) 10^{-5}atm

47. **Which one of the shells contains f–subshells?**
(a) K (b) L (c) M (d) N

48. **Which one of the followings has only one neutron in its nucleus?**
(a) Protium (b) Deutrium (c) Tritium (d) Helium

49. **Beta radiations are emitted by:**
(a) Co-60 (b) C-12 (c) S-16 (d) Sr-90

50. **Rutherford won nobel prize in:**
(a) 1909 (b) 1906 (c) 1908 (d) 1910

51. $^{9}_{4}\mathrm{Be} + ^{4}_{2}\mathrm{He} \longrightarrow ^{12}_{6}\mathrm{C} + ?$
(a) $^{1}_{0}\mathrm{p}$ (b) $^{-1}_{0}\mathrm{e}$ (c) $^{1}_{0}\mathrm{n}$ (d) $^{4}_{2}\mathrm{He}$

ANSWER KEY

1	b	12	b	23	b	34	c	45	d
2	b	13	a	24	b	35	c	46	c
3	d	14	a	25	b	36	b	47	d
4	b	15	b	26	a	37	b	48	b
5	a	16	c	27	d	38	d	49	d
6	c	17	c	28	b	39	b	50	c
7	b	18	a	29	c	40	c	51	c
8	c	19	a	30	a	41	a		
9	c	20	a	31	c	42	b		
10	b	21	d	32	a	43	c		
11	d	22	a	33	a	44	b		