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STD. IX

PHYSICS WORKSHEET

Modern Physics-1

I. Choose the correct answer

1. The first scientific theory about the constituents of matter was given by -----
(a) Prout (b) Michael Faraday
(c) John Dalton (d) J.J. Thomson
2. According to Prout, all elements are made up of ----- atoms.
(a) oxygen (b) nitrogen (c) hydrogen (d) chlorine
3. ----- discovered matter is composed of positive and negative charges.
(a) Faraday (b) Prout (c) Dalton (d) Bohr
4. ----- discovered electrons.
(a) Faraday (b) Bohr (c) Dalton (d) J.J. Thomson
5. According to Thomson's atom model, the radius of an atom is about -----
(a) 10^{-5} m (b) 10^{-6} m (c) 10^{-10} m (d) 10^{-9} m
6. Plum pudding atom model was proposed by
(a) Dalton (b) J.J. Thomson (c) Rutherford (d) Bohr
7. While revolving around nucleus, electrons have angular momentum whose value is an intergral multiple of
(a) $h / 2\pi$ (b) $h / 3\pi$ (c) $h / 4\pi$ (d) h / π
8. The splitting up of a liquid drop is similar to that of
(a) nuclear fusion (b) nuclear fission
(c) nuclear reaction (d) chemical reaction
9. The atomic nucleus was discovered by
(a) Bohr (b) Ruther ford (c) Dalton (d) J.J. Thomson
10. The radius of the nucleus is
(a) 10-10m (b) 10-15 m (c) 10-14 m (d) 10-9 m
11. The radius of the nucleus is ----- times smaller than the radius of the atom.
(a) 20,000 (b) 1000 (c) 10,000 (d) 100
12. The charge of the proton is
(a) 1.602×10^{-21} C (b) 1.602×10^{-19} C
(c) 1.609×10^{-12} C (d) 1.206×10^{-19} C

13. The mass of proton is
(a) 1.76×10^{-27} kg (b) 1.67×10^{-27} kg
(c) 1.76×10^{-19} kg (d) 1.67×10^{-19} kg
14. The mass of neutron is
(a) 1.765×10^{-27} kg (b) 1.675×10^{-27} kg
(c) 1.567×10^{-27} kg (d) 1.576×10^{-27} kg
15. $1 \text{ eV} =$
(a) 1.602×10^{-19} J (b) 1.607×10^{-19} J
(c) 1.206×10^{-19} J (d) 1.706×10^{-19} J
16. For a controlled chain reaction the reproduction factor
(a) $k > 1$ (b) $k < 1$ (c) $k = 1$ (d) $k \neq 1$
17. In atom bomb ----- is used as the fissionable material.
(a) U^{237} (b) U^{296} (c) U^{235} (d) U^{326}
18. In nuclear reactor ----- is used as a moderator.
(a) graphite (b) boron (c) lead (d) cadmium
19. In the nuclear reactor ----- is used as control rod.
(a) cadmium (b) heavy water (c) graphite (d) lead
20. ----- is used as a coolant in the nuclear reactor.
(a) Cadmium (b) Boron (c) Heavy water (d) Graphite
21. We have breeder reactor in
(a) Mumbai (b) Kalpakkam (c) Tarapur (d) Kakrapara
22. A controlled chain reaction takes place in
(a) atom bomb (b) nuclear reactor (c) hydrogen bomb (d) all of these