

CHAPTER 13 : MODERN PHYSICS AND ELECTRONICS**Instructions:**

- ✓ Read the chapter in your book - quickly and thoroughly, preferably more than once.
- ✓ Contact me in case of any difficulties in understanding.

(Questions given in this worksheet are important questions for all exams)

MCQs

(Solve Yourself)

- 1.** When did Henry Becquerel observe radioactivity?
 - a) 1896
 - b) 1996
 - c) 1960
 - d) 1930
- 2.** Radioactivity is a -
 - a) nuclear event
 - b) natural event
 - c) spontaneous event
 - d) All the above
- 3.** Who invented radioactivity?
 - a) Pierre Curie
 - b) Becquerel
 - c) Thomson
 - d) Roentgen
- 4.** Which one of the following does not have any effect on radiation?
 - a) pressure
 - b) temperature
 - c) electric field
 - d) all the above
- 5.** Which metal transforms into lead step by step through radioactive disintegration?
 - a) radium
 - b) polonium
 - c) thorium
 - d) actinium
- 6.** How do alpha, beta and gamma rays emit from radioactive element?
 - a) When the element is heated.
 - b) When high pressure is applied on it.
 - c) When it collides with another element.
 - d) Spontaneously and without any influence.

7. How many rays are emitted by radioactivity?
a) Two
b) Three
c) Four
d) Five
8. The radioactive disintegration per second is called -
a) One Becquerel
b) One Roentgen
c) Becquerel
d) Roentgen
9. Which one of the following is Helium nucleus?
a) Alpha particle
b) Beta particle
c) Gamma particle
d) X-ray
10. In which nucleus are there two protons and two neutrons?
a) Alpha particle
b) Beta particle
c) Gamma particle
d) All of them
11. Which one is deflected by electric and magnetic field?
a) alpha particle
b) beta particle
c) gamma particle
d) a and b both
12. Which one has ionizing power?
a) alpha particle
b) beta particle
c) gamma particle
d) all of them
13. By which can the presence of alpha particle be determined?
a) photographic film
b) cloud chamber
c) gold leaf electroscope
d) all the above
14. On the screen of which will alpha particle create fluorescence?
a) ZnS
b) ZnCO₃
c) CaCO₃
d) NaCl
15. The mass of beta ray is equal to the mass of -
a) electron
b) proton
c) neutron
d) nucleus
16. By which can the presence of beta particle be detected?
a) photographic plate
b) cloud chamber
c) gold leaf electroscope
d) both a and b
17. Which one is charge neutral?
a) beta particle
b) alpha particle
c) gamma particle
d) all of them
18. Which one is not deflected by magnetic field?
a) gamma ray
b) alpha ray
c) beta ray
d) cathode ray
19. Which ray has no mass?
a) alpha ray
b) beta ray
c) gamma ray
d) none of the above
20. Which one is electromagnetic wave?
a) alpha particle
b) gamma particle
c) beta particle
d) all of them

- 21.** The speed of which one is equal to the speed of light.
- alpha particle
 - beta particle
 - gamma particle
 - neutrino
- 22.** There are 100000 radioactive atoms in a radioactive element. After the half life of the element how many atom will remain?
- 10000
 - 1000
 - 50000
 - 5000
- 23.** In which field can radioactivity be used?
- medical science
 - agriculture
 - industries
 - all of the above
- 24.** In the treatment of cancer which one of the following is used?
- electron
 - proton
 - radioactivity
 - neutron
- 25.** In which case is radioactivity used?
- to make the equipments germless
 - to control the thickness of paper in the paper mills
 - to identify the presence of smoke in the fire
 - All of the above.
- 26.** Who invented the first vacuum tube?
- Newton
 - Einstein
 - Faraday
 - Addison
- 27.** Which one works as a reflector?
- vacuum tube
 - watch
 - silicon
 - telephone
- 28.** Which one transforms AC into DC?
- vacuum tube
 - bgic gate
 - CAT
 - IC
- 29.** Which one of the following is called diode?
- vacuum tube
 - electron
 - proton
 - neutron
- 30.** Which one can work as an amplifier?
- diode
 - LED
 - watch
 - transformer