Name: _____	**Subject:** Physics	**Class:** 10th	**Time:** 80 minutes	Total Marks:	**40**
Chapter No.	**MJDexpert.com**			Obtained marks	

Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts (a and b) of Question 3. Cutting and removal of any content is strictly prohibited.

Objective-Section

Q. 1 Encircle the correct answer. (10x1=10)

1. Atomic number is denoted by a symbol:
   (A) Z (B) A (C) None (D) X
2. The proton is heavier than an electron by approximately:
   (A) 1836 times (B) 1863 times (C) 1870 times (D) 1800 times
3. Beta particles have:
   (A) Negative charge (B) Neutral charge (C) Positive charge (D) None
4. The rays used during brain radiotherapy are:
   (A) Alpha Rays (B) Beta Rays (C) Gamma Rays (D) X-rays
5. The half-life of isotope in days is:
   (A) 5.07 (B) 6.07 (C) 7.07 (D) 8.07
6. The half-life of carbon in years is:
   (A) 3750 Years (B) 5370 Years (C) 5730 Years (D) 7530 Years
7. For the diagnosis of brain tumor, which isotope is used?
   (A) Carbon-14 (B) Cobalt-60 (C) Phosphorus-32 (D) Iodine-131
8. During the fission reaction of 1 kg of Uranium-235, the amount of energy released is:
   (A) 4.7 x 10^13 J (B) 5.7 x 10^13 J (C) 6.7 x 10^13 J (D) 7.7 x 10^13 J
9. The temperature at the center of the sun is nearly _____ million Kelvin.
   (A) 20 M K (B) 2 M K (C) 24 M K (D) 25 M K
10. If we burn one ton of coal, about _____ energy is released.
    (A) 3.6 x 10^7 J (B) 2.6 x 10^7 J (C) 4.6 x 10^7 J (D) 7.6 x 10^7 J

Subjective-Section

Q.2 Write short answers of any ten of the following questions: (10x2=20)

I. Define an atom and write its basic particles.
II. Define atomic number and mass number.
III. Define isotopes and give an example.
IV. What is the difference between natural radioactivity and artificial radioactivity?
V. Who discovered radioactivity?
VI. Write a note on cosmic radiation.
VII. Define nuclear transmutation.
VIII. Explain alpha decay with an example.
IX. What is meant by penetration ability?
X. Write the half-lives of hydrogen, lead, uranium, and carbon.
XI. Explain briefly carbon dating.
XII. Draw a diagram of the fission chain reaction in U-235.

Q.No.3 Long Question: (5+5=10)

a) Write safety measures to save from the hazards of radiation.
b) What are background radiations? Give their reasons.