CHEMISTRY-11	Chapter#05 (Complete) Test-4		
	Name:	Class:	ID:
Date: / /	**Marks Total: 40**	**Marks Obtained:**	
Time Allowed: 75 Min.			

Maximum Marks: 08 **(OBJECTIVE TYPE)** Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

1) The nature of positive rays depends on:

(a) The nature of electrodes (b) The nature of the discharge tube
(c) The nature of the residual gas (d) All of the above

2) Quantum number values for 2p orbital are:

(a) $n = 2, \ell = 1$ (b) $n = 1, \ell = 2$ (c) $n = 1, \ell = 0$ (d) $n = 2, \ell = 0$

3) The e/m value for the positive rays is maximum for:

(a) Hydrogen gas (b) Helium gas (c) Oxygen gas (d) Nitrogen gas

4) Splitting of spectral lines when hydrogen atom is subjected to magnetic field is called:

(a) Zeeman effect (b) Stark effect
(c) Compton effect (d) Photoelectric effect

5) Tin stone glows _____ when cathode rays fall on it.

(a) Green (b) Yellow (c) Red (d) Blue

6) Bohr made use of _____ in formulating his atomic model.

(a) Rutherford's model (b) Plank's quantum theory
(c) Heisenberg's uncertainty principle (d) de-Broglie's equation

7) Which one of the given radiations has maximum energy?

(a) Microwave (b) X-rays (c) Cosmic rays (d) γ-rays

8) Which atom has unpaired electrons?

(a) Ca (b) Zn (c) Cu (d) Xe

Maximum Marks: 32 **(SUBJECTIVE TYPE)** Time Allowed: 65 Min.

SECTION-I

Q.2: Give brief answers to the following questions: **(20)**

i. Why is it necessary to decrease the pressure in the discharge tube to get the cathode rays?
ii. Give reason for the production of positive rays?
iii. How were neutrons discovered?
iv. Justify that the distance gaps between orbits go on increasing from lower to higher orbits.
v. Why is the energy of an electron, revolving in an orbit, always negative?
vi. Write names of the spectral series of hydrogen spectrum.
vii. State Mosley's law. Give its mathematical form.
viii. What is Heisenberg's uncertainty principle? Give its mathematical expression.
ix. What are degenerate orbitals?
x. What is Auf-bau principle?

SECTION-II

NOTE: Attempt All Questions: **(12)**

Q.3: Discuss the properties of cathode rays.

Q.4: What is Bohr's model of atom? Derive an expression for the radius of hydrogen atom.

Q.5: What are quantum numbers? Explain azimuthal quantum number and magnetic quantum number.