ٹیسٹ سے پہلے کم از کم تین بار درود شریف پڑھ لیں۔

Student Name:		**Roll No:**	**Date:** / /
سوچ بدلیں،معاشرہ بدلیں	**Class** 2nd **Year**	**Ch#20**	مثبت سوچیں، خوش رہیں
T- Marks - 40	**Subject: Physics**	**Time: 45 - M**	**Obtained Marks:**

Objective Type

Q#1	**Encircle the Correct Option**	**10X1=10**

1. If an electron jump from nth orbit of energy En to pth(lower) orbit of energy ep and a.photon of frequency F and wave length Y is 10 emeted then

a	Fλ=En-Ep	**b**	hcλ=En-Ep	**c**	hf=En-Ep-En	**d**	hλ=Ep-En

2. S unit of Rydberg constant is.

a	m^{-2}	**b**	Ms	**c**	m^{-1}	**d**	ms^{-1}

3. If 1 or more electrons are completely remove from an atom than atom is to be.

a	Excited	**b**	Lionized	**c**	Polarized	**d**	Stabilized

4. The numerical value of ground state energy for hydrogen atom in eV is.

a	-10	**b**	13.6	**c**	10	**d**	-13.6

5. The residising time of atom metastable state is

a	$10^{-6\ sec}$	**b**	10^{-5sec}	**c**	$10^{-4\ sec}$	**d**	10^{-3sec}

6. The value of Rydberg constant is m^{-1}

a	$1.09x10^{7}$	**b**	$1.07x10^{8}$	**c**	$1.07x10^{9}$	**d**	$6.63x10^{-34}$

7. X-rays are

a	High energy electron	**b**	High energy photon	**c**	High energy proton	**d**	High energy neutron

8. Which one of the following is not characteristic of laser

a	High intensity	**b**	High directivity	**c**	Incoherence	**d**	Monochromatic

9. Laser can only reproduced if an atom is in its

a	Normal state	**b**	Excited state	**c**	Lionized state	**d**	De-excited state

10. X-rays photon moves with a velocity of

a	Less than light	**b**	Light	**c**	Grater than light	**d**	Sound

Q # 2	**Short Questions**	**10 x 2 = 20**

1. Define atomic spectrum?
2. Bohrs theory of hydrogen atom is base upon servile assumption .do any of their assumption contradict clinical physics?
3. What is meant by A line spectrum.
4. Is energy conserved when an atom emails a photon of light.
5. What do you mean when we say that the atom is excited.
6. What are the adventage of lasers over ordinary light?
7. What are the uses of laser in medical?
8. What is laser?
9. What are X-rays ?
10. Explain Y laser action could not occure without population inversion b/w atomic levels?

Q # 3	**Long Questions**	**2 X 5 = 10**

1. Give the postulate of Bohars atomic model.how did de-broglie deduced Bohars second postulate.
2. What are the energy in ev of quenta of wave length?λ=400,500and700nm.