

Dual nature of matter and radiation

Test Paper-I

MAX MARKS: 30

TIME: 90Mts

Sl. No.	QUESTION	ANSWER PAGE	MARKS
1	Who discovered X-rays and in which year?	Page:386	1
2	Who discovered an electron and in which year?	Page:386	1
3	Who discovered cathode rays and in which year?	Page:386	1
4	What is the value of e/m ?	Page:387	1
5	Define work function of a metal. What is the SI unit of measurement of work function?	Page:387	2
6	Define one electron volt. What is its value in joules	Page:387	2
7	Name the unit of energy commonly used in atomic and nuclear physics. What are the factors on which the work function of a metal depends upon?	Page:387	2
8	What are the different physical processes by which energy can be supplied to a metal surface so that it can eject an electron?	Page:388	3
9	Give the observations made by Hertz regarding Photoelectric effect.	Page:388	2
10	Give any three observations made by Hallwach's and Lenard on photo electric effect.	Page:389	3
11	Define threshold frequency. Give the factors on which the threshold frequency depends upon.	Page:389	3
12	Find from the following the metals which respond to ultraviolet light only and visible light even Zinc, cadmium, Caesium, rubidium, and magnesium.	Page:389	2
13	What is a photosensitive material? Give an example	Page:389	2
14	Draw a neat diagram showing the experimental setup to study the photoelectric effect. Also plot a graph showing a. the variation of photoelectric effect with intensity of incident radiation b. Effect of plate potential on photoelectric current for different intensities of incident radiation having same frequency.	Page:390	3
15	What is the effect of frequency of incident radiation on stopping potential	Page:391	2