of

Q.1	Collimator in the Davisson and Germer experiment set up causes the electron beam to become - (A)Narrow. (B)Straight									
	(C)Both options (A) and (B) (D)none of these									
Q.2	Electron microscope (A)Study of biologic (B)Study of metals a (C)Study of microor (D)All of these	e can be used for - al cells. and crystals. ganism.								
Q.3	J.J. Thomson's Atomic model successfully explained - (A)Thermionic emission (B)Photoelectric emission (C)Ionization (D)All of these									
Q.4	Which crystal is used in Davisson and Germer experiment?									
	<b>(A)</b> Aluminum	<b>(B)</b> Nickel	(C)Cobalt	(D)Zinc						
Q.5	<ul> <li>Which of the following is not correct according to Dalton's atomic theory?</li> <li>(A)Matter consists of indivisible atoms.</li> <li>(B)Atoms are neither created nor destroyed.</li> <li>(C)All atoms of a given element are identical in mass and properties.</li> <li>(D)Atoms can be created as well as destroyed.</li> </ul>									
0.6	Dalton based his theory on the -									
C	<b>(A)</b> Law of conservat <b>(C)</b> Both options (A)	tion of mass and (B)	<b>(B)</b> Law of consta <b>(D)</b> none of these	<b>(B)</b> Law of constant composition <b>(D)</b> none of these						
Q.7	Minimum interluna	r spacing required for	Bragg's diffraction is –	<b>(D)</b> 23						
	<b>(A)</b> //4	<b>(B)</b> //2	(0)/	( <i>D)</i> 2 <i>N</i>						
Q.8	The first order reflection $(n = 1)$ from a crystal of the X-ray from a copper anode tube $(1.54 \text{ Å})$ occurs at an angle of $45^{\circ}$ . What is the distance between the set of plane causing the diffraction?(A) 1.1 Å(B) 1.3 Å(C) 1.5 Å(D) 1.7 Å									
Q.9	In an electron microscope, electrons accelerated by a voltage of $50 \text{ kV}$ are used. In an optical microscope of the same aperture, yellow light of wavelength $5900 \text{ Å}$ is used. The resolving power of the electron microscope will be <b>n</b> times higher than that of the optical microscope, where <b>n</b> is of the order of									
	<b>(A)</b> 10 <sup>2</sup>	<b>(B)</b> 10 <sup>3</sup>	<b>(C)</b> 10 <sup>4</sup>	<b>(D)</b> 10 <sup>5</sup>						

Q.10 Wave property of electrons implies that they will show diffraction effects. Davisson-Germer demonstrated this by diffracting electrons from crystals. The law governing the diffraction from a crystal is obtained by requiring that electron waves reflected from the planes of atoms in a crystal interfere constructively.



## ANSWER KEY

Q.	1	2	3	4	5	6	7	8	9	10
Sol.	(C)	(D)	(D)	(B)	(D)	(C)	(B)	(A)	(D)	(D)