Foundation of Nano electronics

Item Text	Option Text 1	Option Text 2	Option Text 3	Option Text 4
What will be De-Broglie wavelength of an electron moving with speed of 1/10th of light.(mass of electron=9.1 X 10^-31 kg, planks constant=6.625 X 10 ^-34 J-sec)	2.34 Angstrom	23.4 Angstrom	234 Angstrom	0.234 Angstrom
What will be Energy state of an electron in a potential well of width 20 nm for n=1 (planks constant h= 6.625 X 10 ^ -34 JS, mass of electron=9.1X10^-34kg)	0.15 X 10 ^-23 J	1.5 X 10 ^-23 J	15 X 10 ^-23 J	0.015 X 10 ^-23 J
What will be Energy state of an electron in a potential well of width 20 nm for n=2 (planks constant h= 6.625 X 10 ^ -34 JS,mass of electron=9.1X10^-34kg)	0.6 X 10 ^-23 J	6 X 10 ^-23 J	0.06 X 10 ^-23 J	60 X 10 ^-23 J
What will be Energy state of an electron in a potential well of width 20 nm for n=3 (planks constant h= 6.625 X 10 ^ -34 JS,mass of electron=9.1X10^-34kg)	1.35 X 10 ^-23 J	13. 5 X 10 ^-23 J	135 X 10 ^-23 J	0.135 X 10 ^-23 J
What will be ground state energy of an electron in infinite potential well of width 1 Angstrom (planks constant h= 6.625 X 10 ^ -34 JS)	0.541 X 10 ^-17 J	5.41 X 10^-17 J	54.1 X 10 ^-17 J	541 X 10 ^-17 J
1 nm = …….cm	10^-10	10^-9	10^-8	10^-7
Gaussian distribution is a	Parabolic Curve	Hyperbolic curve	Bell shape curve	Linear
Which particles donot obey Pauli exclusion principle?	Bosons	positrons	electrons	fermions

Foundation of Nano electronics

Poissons distribution function is	Contineous probability distribution	Discrete probability distribution	Symmetric distribution	Asymmetric distribution
Electronic configuration of Helium atom is	1s1	1s2	2s1	2s2
Maxwell Boltzman Statistics is a	Quantum Statistics	Classical Statistics	Low temp. Statistics	High Temp. Statistics
Bose Einstein statistics applies to	electrons	protons	neutrons	Bosons
Which Statistics is applicable to ideal gas molecules	Maxwell Boltzman	Bose Einstein	Fermi Dirac	Bose Einstein and Fermi Dirac
According to Fermi Dirac Distribution, at E=Ef the fermi level has value	1/2	1/3	1/4	1
Ballastic transport occurs over	large lengths	small lengths	very small length scales	very large lengths
Density of states in solid refers to	Total no of states in Conduction Band	Total no of states in Valance Band	No. of Energy states per unit volume	Total no. of filled states in Valance Band
A product N (E) F (E) represents	Total no. of states	Total no. of empty states	Carrier concentration	Allowed energy states
Electron obeys	classical Statistics	Fermi Dirac Statistics	Maxwell Boltzman statistics	Bose Einstein statistics
How many valance electrons are there in Silicon atom	1	4	3	2
In metals, a gap between valance band and conduction band shows	Large gap	Small gap	overlap	very large gap
Which of the following Distribution has a Bell shape curve	Poission	Gaussion	Fermi Dirac	Maxwell Boltzman

Foundation of Nano electronics

In which distribution only particles are taken into consideration	Maxwell Boltzman	Fermi Dirac	Bose Einstein	Poisson