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Botch & B10

FAROLUND .: BC4178



	ENROLL NO .: BC4118
	PHYSICS TUTCRIAL -9
-	
Q-1-	No. of mode $H = 8\pi dA$ $dA = 20 \times 10^{8} \text{ cm}$
	No. of moda 1 - 34 - 1 = 5x10-5 cm
	N = 8×3114×20×10-8
	(5×10-5)4
	= 8-038 × 10" Ay
(8-2-	(A) $\overline{E} = KT = 1.38 \times 10^{23} \times 1800 = 2.484 \times 10^{-20} \text{ J}$
	the state of the s
	(B) E = hy/KT XKT = 2-12 × 2-484×10-20 = 0.717×10-20 J 4
	EN/KT -1 E2-12 -1
100	$y_{A} = 7 \times 10^{8} \text{m}$ , $A_{B} = 4 \pi  \sigma_{B}^{2} = 4 \times 3 \cdot 14 \times (7 \times 10^{8})^{2}$
₹.3.	6 = 5.671 ×10-8 w/m2 k4
	Total Energy readiated Sun/sec = U = AseT4 = 3.95×1025
	R = 1.5×10" m  Energy neached per unit area per sec = Gr = U = 1.4 kw/m²
	Energy Reached for white
	- x + 4 >
g.4.	e = sent4
	$\theta = \sigma e A T^4 = 5 \sqrt{3}$
	e = 0.18 90
	0.013
9.5.	1mT = comt = 2.896×10-3
	T = 6000k 4
G.c.	En = o-en AATA
	GB = 6 CB ABTB4
-	
	$\epsilon_A = \epsilon_A T_A^{\prime} \rightarrow T_B = 3T_A = 1934K$
	€B CD TB'
	$\frac{\epsilon_{a}}{\epsilon_{a}} = \frac{\epsilon_{a}}{\epsilon_{a}} \frac{T_{a}}{T_{a}} \rightarrow T_{B} = 3T_{a} = 1934 \text{ k}.$

72	12
Date	-(1)
Poge	
R	

一种一个工程。

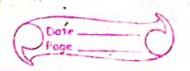
	Page Page
	AmT = 2.1×10-3
	Am = 2.9×10-3 = 6.5 µm
	-5802
	Ama = 1.5 µm ~
	The second of th
	Physics Tutorial - 10
9.1.	$\lambda' = \lambda + h \left(1 - \cos \theta\right) \cdot h = 0.024h$
	moc moc
ျှံ	$\lambda' = \lambda + f_{X2} = 1.45 \beta$
	mec
(ເເ່ງ	$\lambda' = \lambda + \underline{\beta} = 1.42 \underline{\beta}$
	m <sub>o</sub> c .
(111)	$\lambda' = \lambda + 0 = 1.4 \text{ Å}$
Calgorial C	
Q.2.	$\Delta x = 2 \times 10^{-10}$ , $\Delta p. \Delta x = 6$
Water and the second	
	$\Delta p = \beta = 6.63 \times 10^{-37} = 3.635 \times 10^{-25} \text{ kg m sec}^{-1}$ $4\pi \Delta x = 4x3.14 \times 2x10^{-10}$
	21
1.3 ×	
	= 3.818×10-23 kgm/s.
	% uncertainty = <u>Apriloo</u> = 0.69
	O P
0.25	EGE = eV
Q. 3°	$K \cdot E = m_0 c^2 - m_0 c^2$
	1-12/62
	$eV = \frac{m_0c^2 - m_0c^2}{c^2} \rightarrow \frac{1-v^2}{c^2} = \frac{m_0c^2}{eV + m_0c^2}$
	1. 10
	$\frac{1-y^{2} = m_{o}^{2} c^{4}}{c^{2} (eV + m_{o}c^{2})^{2}}$
	c (eV+moc)
M.	



- 1	Proge
-	$v = c \left[ eV(eV + 2moc^2) \right] - 0$
	eV + moc2
	Live and a second
	$\lambda = \frac{h}{mv} = h \left[ 1 - \frac{v^2}{c^2} \right] $ $m_0 V$
	mov mov
	putting 1 to 2:
1	$\lambda = \frac{hc}{\sqrt{12}}$
	eV(eV+2mol2)
Q.4.	$\lambda = h$ , $V_g = V$
	mu - 24 6 1
	$y = h = \frac{6.63 \times 10^{-34}}{10^{-31} \times 10^{-10}} = \frac{6.06 \times 10^6 \text{ m/b}}{10^{-10}} = \sqrt{9}$
	$\frac{V_p = \omega = \epsilon = \rho = h}{\kappa  P  2m}  2m\lambda$
(	
	Vp = 3.03×10 m/s :. Vg = 2Vp
Φ-	- DPDX > h DVDX > h
(P.5	- ΔρΔx > h ΔVΔx > h 4πmo
2 101	Δx = 10Å, m. = 9.11×10-31, h = 6.63×10-34
THEY A	DU = R = 5.79 × 10 5 m/s
	4mmo DX
Tot .	
Q.6.	$V_p = V_p - \lambda dV_p$ $V_p = c \sqrt{\lambda}$
3,71	$V_{p} = c\sqrt{\lambda} - \lambda \cdot c = c\sqrt{\lambda} = \sqrt{p}$ $2\sqrt{\lambda}$
	₹/⊼ 2 ~
0,7	· mp; my = 2mp, up, us
- 4	
	$K \cdot \epsilon_p = \underline{m_p v_p^2}$ , $K \cdot \epsilon_d = \underline{m_d v_d^2} = \underline{m_d v_d^2}$
**	W/
	$K \cdot E_p = K \cdot E_d \rightarrow V_d = V_p$ $\therefore \lambda_d = \frac{1}{2} \times \sqrt{2}$
	λd: λp = 1: √2 of √2

3. 3.7.4 1345 346	<b>"阿克尔人",并是阿罗蒙蒙的人的</b>	THE STATE OF THE S
	The first transfer of the second	1
	Page _	
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7.6	Physics Tutorial -11
Q=1-	Probability = $\int_{0}^{4/n} \frac{2 \sin^{2}n\pi x  dx}{L}$
Strate	
	$= 2 \int_{0}^{4n} \frac{1}{1} \left(1 + \cos \frac{2n\pi x}{L}\right) dx = 1 \left[21 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +$
01000	= 1 9/
	n ,
(8.2.	$\epsilon_n = n^2 \pi^2 \kappa^2$ for law length of box
	$\frac{\mathcal{E}_n = n^2 n^2 \kappa^2}{2mL^2}  \frac{for  lnm  length}{\mathcal{E}_n = 37 \cdot 7 n^2 e^{\sqrt{\frac{2mL^2}{n^2}}}$
	Ground State: n=1, G1 = 37-7eV
	1st excited n: n=2, G = 150.8 eV
	the growth of a large transfer and the second of the secon
EES ) T AAC A ATAL	DE = 62-61 = 113.1eV A
Section 1	
Q.3.	$G_h = n^2 h^2 \pi^2$ for $m = \log_{10} L = 10 \text{ cm}$
	$\frac{C_h = n^2 h^2 \pi^2}{2m\ell^2}  \text{for } m = \log_{10} L = \log_{10}$
	$G_{n} = 3.4 \times 10^{-45}  n^{2}  \text{eV}$
	6, = 3.4 x10-45 eV
	E2 = 13.6×10-45 W
90	E3 = 30.6×10-45 eV
	Englands are do close to each other they can't
	be observed seperately.
Q.4.	$E_n = n^2 h^2 \Pi^2 \implies E_2 - E_1 = 3h^2 \Pi^2 = AC$
4.4	$\frac{\mathcal{E}_{n} = n^{2} h^{2} \Pi^{2}}{2mL^{2}} \Rightarrow \frac{\mathcal{E}_{2} - \mathcal{E}_{1}}{2mL^{2}} = \frac{3h^{2} \Pi^{2}}{2mL^{2}} = hC$
MEA-	A = 1103 nm → Infrared (no visible)
	$\int_{\infty}^{\infty} (p \psi^* dx) = 1$
9.5.	J-00
	$C^{q} c^{2} dx = 1 \rightarrow C^{2} 4q = 1 \rightarrow C = 1$
	-3a 2 7a
2	$\psi = \frac{1}{2\sqrt{a}}$
Day or	The state of the s
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## Brobability in 0 to a $\int_0^a \frac{1}{\sqrt{5a}} \frac{1}{\sqrt{5a}} dx = \frac{1}{4} \frac{4}{\sqrt{5a}}$

$$T = e^{-2\beta L} \rightarrow ln(\frac{1}{T}) = 2\beta L$$

$$\beta = \frac{2m(v_0-6)}{5} = 1.15 \times 10^{10}$$

$$T_{i} = 1.1 \times 10^{-7}$$

(i) If Energy is doubled 
$$T_2 \approx 2.4 \times 10^{-7}$$
 ( slightly inc. )

(ii) n width of potential bowier is doubted 
$$T_2 = 1.3 \times 10^{-14}$$
 (die. T.P).