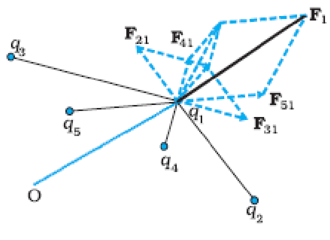
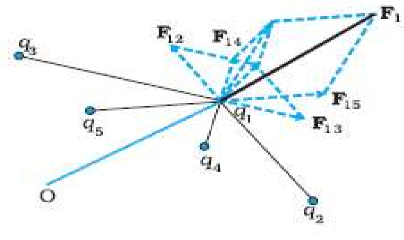
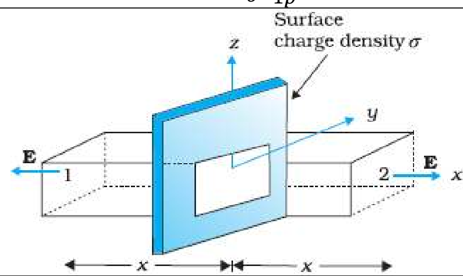
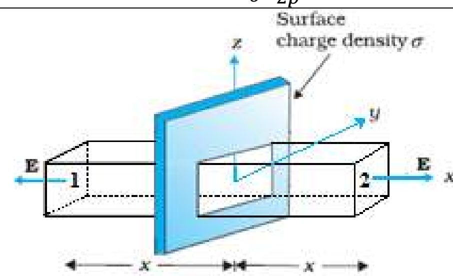
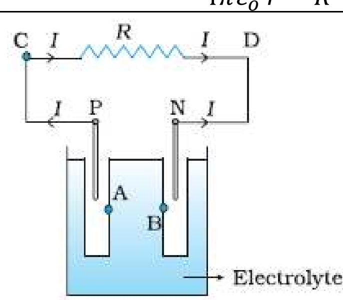
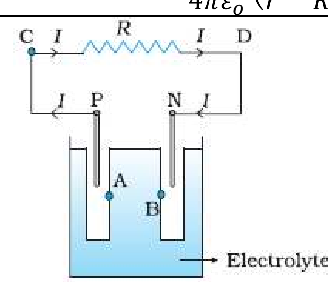
Physics Class XII (Part-I)

Location	Error	Correction
Page 12, para 3,line 18	$\hat{\boldsymbol{r}}_{21} = \hat{\boldsymbol{r}}_{12}$	$\hat{\boldsymbol{r}}_{21} = -\hat{\boldsymbol{r}}_{12}$
Page 15, figure 1.8 (b)	 (b)	 (b)
Page 20, para 2, line 7	$\boldsymbol{E}_2 = \frac{1}{4\pi\varepsilon_o}\frac{q_1}{r_{1p}^2}\hat{\boldsymbol{r}}_{1p}$	$\boldsymbol{E}_2 = \frac{1}{4\pi\varepsilon_o}\frac{q_2}{r_{2p}^2}\hat{\boldsymbol{r}}_{2p}$
Page 38, Figure 1.30		
Page 55, Example 2.1 Solution	$(a)\ V = \frac{1}{4\pi\varepsilon_o}\frac{Q}{r} = 9\times10^9 Nm^2C^{-2} \times \frac{4\times10^7}{0.09m}$	$(a)\ V = \frac{1}{4\pi\varepsilon_o}\frac{Q}{r}$ $= 9\times10^9 Nm^2C^{-2} \times \frac{4\times10^{-7}}{0.09m}$
Page 57, para 6, line 20	Fig. 2.5	Fig. 2.4
Page 58, first line	$= \frac{1}{4\pi\varepsilon_o}\frac{q_1}{r_{1p}} + \frac{q_2}{r_{2p}} + \ldots\ldots + \frac{q_n}{r_{np}}$	$= \frac{1}{4\pi\varepsilon_o}\left(\frac{q_1}{r_{1p}} + \frac{q_2}{r_{2p}} + \ldots\ldots + \frac{q_n}{r_{np}}\right)$
Page 63, Example 2.4 solution	$= -q\left(\frac{+q}{4\pi\varepsilon_o d} + \frac{-q}{4\pi\varepsilon_o d\sqrt{2}} + \frac{q}{4\pi\varepsilon_o d}\right)$	$= -q\left(\frac{+q}{4\pi\varepsilon_o d} + \frac{-q}{4\pi\varepsilon_o d\sqrt{2}} + \frac{+q}{4\pi\varepsilon_o d}\right)$
Page 66, line 2	$A = 9\times10^5 C\ m^{-2}$	$A = 9\times10^5 JmC^{-1}\ or\ Nm^2C^{-1}$
Page 67, line 5 of Example 2.6	$60^{\underline{0}}$	60^0
Page 75, equation (2.43)	$C = \frac{Q}{V} == \frac{\varepsilon_o A}{d}$	$C = \frac{Q}{V} = \frac{\varepsilon_o A}{d}$
Page 83, equations of para 6	$V(R) = \frac{1}{4\pi\varepsilon_o}\frac{Q}{R} + \frac{q}{R}$ $V(r) = \frac{1}{4\pi\varepsilon_o}\frac{Q}{R} + \frac{q}{r}$ $V(r) - V(R) = \frac{q}{4\pi\varepsilon_o}\frac{1}{r} - \frac{1}{R}$	$V(R) = \frac{1}{4\pi\varepsilon_o}\left(\frac{Q}{R} + \frac{q}{R}\right)$ $V(r) = \frac{1}{4\pi\varepsilon_o}\left(\frac{Q}{R} + \frac{q}{r}\right)$ $V(r) - V(R) = \frac{q}{4\pi\varepsilon_o}\left(\frac{1}{r} - \frac{1}{R}\right)$
Page 110, figure 3.18 (a)	 (a)	 (a)

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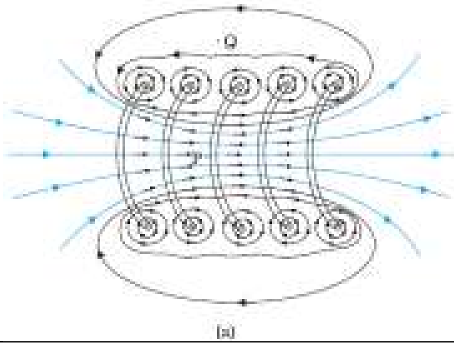
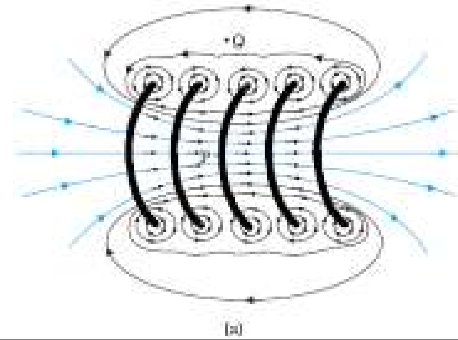
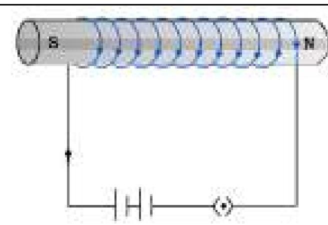
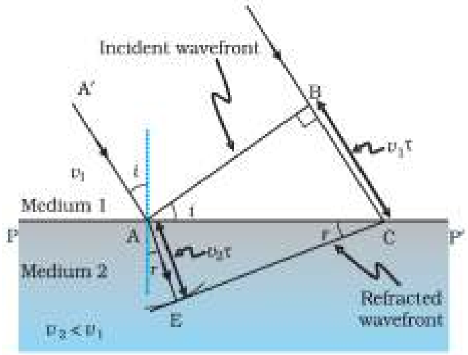
Location	Error	Correction
Page 109,112, 116, 117, 120, &128	Figures3.17,3.19, 3.22, 3.23, 3.24, 3.26, 3.27 are not properly printed	
Page 140, line 7	Colour defect	Remove blue colour from equations $\boldsymbol{E} = E\hat{\jmath}, \boldsymbol{B} = B\hat{k}, \boldsymbol{v} = v\hat{\imath}$
Page 147, equation 4.17(a) & para 2 of section	ÜB.$\boldsymbol{dl} = m_o I$[4.17(a)] ÜB.$\boldsymbol{dl}$	$\oint \boldsymbol{B}.\boldsymbol{dl} = \mu_0 I$[4.17(a)] $\oint \mathbf{B}.\boldsymbol{dl}$
Page 151, Figure 4.17 (a)		
Page 158, equation (4.29) & next equation	$\tau = \boldsymbol{m}.\boldsymbol{B}$ $t = \boldsymbol{p_e}.\boldsymbol{E}$	$\boldsymbol{\tau} = \boldsymbol{m} \times \boldsymbol{B}$ $\boldsymbol{\tau} = \boldsymbol{p_e} \times \boldsymbol{E}$
Page 159, line 2 & 10 Solution of example 4.11	$B = \frac{m_o NI}{2R}$ $\tau = \lvert\boldsymbol{m}.\boldsymbol{B}\rvert$	$B = \frac{\mu_o NI}{2R}$ $\tau = \lvert\boldsymbol{m} \times \boldsymbol{B}\rvert$
Page 160, section 4.10.2	Equation is missing between para 1 and para2	$B = \frac{\mu_0 I R^2}{2(x^2+R^2)^{3/2}}$
page 164, equation (4.38)	£= $\left(\frac{NAB}{k}\right) I$	$\phi = \left(\frac{NAB}{k}\right) I$
Page 169, line 5 of Exercise 4.11	$e = 1.5 \times 10^{-19}$ C	$e = 1.6 \times 10^{-19}$ C
Page 187, line 1 of last para	Verticle	Vertical
Page 191, last line of example 4.10 solution	$B = \mu_r n_o (I + I_M)$	$B = \mu_o n (I + I_M)$
Page 196, figure 5.16	Figure 5.16 , wounded wire is not seen clearly	
Page 224, solution (a) of example 6.10	All m_o	$= \frac{1}{2} L \left(\frac{B}{\mu_o n}\right)^2$ since $B = \mu_o nI$, $= \frac{1}{2}(\mu_o n^2 Al)\left(\frac{B}{\mu_o n}\right)^2$
Page 238, equations of para 2, Para 3	$\int \frac{di}{dt} dt = \frac{v_m}{L} \int sin(wt) dt$ $-cos(wt) = sin\left(wt - \frac{\pi}{2}\right)$	$\int \frac{di}{dt} dt = \frac{v_m}{L} \int sin(\omega t) dt$ $-cos(\omega t) = sin\left(\omega t - \frac{\pi}{2}\right)$
Page 252, equation of para 1	£= $tan^{-1}\left(\frac{X_C - X_L}{R}\right)$	$\phi = tan^{-1}\left(\frac{X_C - X_L}{R}\right)$
Page 274, solution line 8	All m_0	$= \mu_o (i_c + i_d) = \mu_o (0 + i_d)$
Page 296, 5.15 (b)	$(2m_o m)/(4pr_1^3)$	$(2\mu_o m)/(4\pi r_1^3)$

<u>**Physics Class XII (Part-II)**</u>

<table>
<tr><th>Location</th><th>Error</th><th>Correction</th></tr>
<tr><td>Page 366, figure 10.14</td><td>

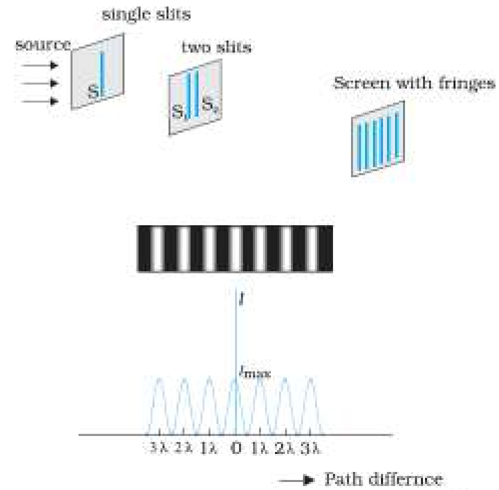
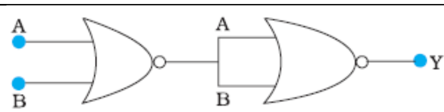
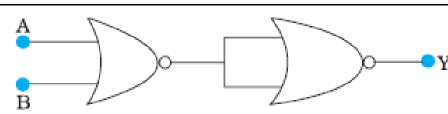
Wrong figure</td><td>

FIGURE 10.14 Photograph and the graph of the intensity distribution in Young's double-slit experiment.</td></tr>
<tr><td>Page 369, line 3 & 4, equation (10.22)</td><td>$\theta 1 (n + 1/2)\ \lambda/a$
$\theta 1 n\ \lambda/a$
$\theta \approx\ \lambda/a\ \theta \approx\ \lambda/A$ (10.22)</td><td>$\theta \approx (n + 1/2)\ \lambda/a$
$\theta \approx n\ \lambda/a$
$\theta \approx\ \lambda/a$ (10.22)</td></tr>
<tr><td>Page 373, equation (10.26)</td><td>$D/f 12 \tan\beta$</td><td>$D/f \approx 2 \tan\beta$</td></tr>
<tr><td>Page 379, line 4</td><td>$I = I_o cos^2\theta cos^2 \frac{\pi}{2} - \theta$</td><td>$I = I_o cos^2\theta cos^2 \left(\frac{\pi}{2} - \theta\right)$</td></tr>
<tr><td>Page 380, equation (10.36)</td><td>$\mu = \frac{sin\ t_B}{\sin r} = \frac{sin\ t_B}{\sin(\pi/2 - t_B)}$</td><td>$\mu = \frac{sin\ i_B}{\sin r} = \frac{sin\ i_B}{\sin\left(\frac{\pi}{2} - i_B\right)}$</td></tr>
<tr><td>Page 449, line 3 & 4</td><td>$\frac{1}{238\times10^{-3}}$ kmol $\times\ 6.025 \times 10^{26}$atoms/kmol
$= 25.3 \times 10^{20}\ atoms$</td><td>$\frac{1}{238\times10^{3}}$ kmol $\times\ 6.025 \times 10^{26}$atoms/kmol
$= 25.3 \times 10^{20}\ atoms$</td></tr>
<tr><td>Page 461, para 8</td><td>â¯</td><td>β^{-}</td></tr>
<tr><td>Page 511, Figure 14.47</td><td>
</td><td>
</td></tr>
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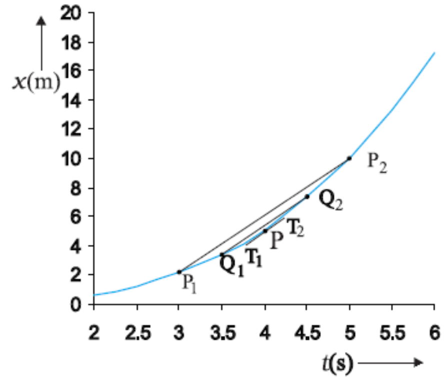
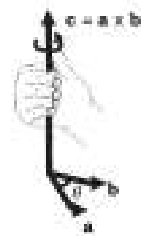
Physics Class XI (Part-I)

Location	Error	Correction
Page 43, Figure 3.6	In figure 3.6, P line should touch the curve	
Page 46, equation (3.6)	$\bar{a} = \dfrac{v - v_o}{t - 0}\ or, v = v_o + at$	$\bar{a} = \dfrac{v - v_o}{t - 0}\ or, v = v_o + \bar{a}t$
Page 51, line 1of column 2	Missing an equation in first line	$d = -\dfrac{1}{2}gt_r^2$
Page 84, line 1	$h_m = \dfrac{(v_o \sin q_o)^2}{2g}$	$h_m = \dfrac{(v_o \sin \theta_o)^2}{2g}$
Page 145, column 1 equation (7.2)	Equation (7.2) to be corrected	$X = \dfrac{m_1x_1 + m_2x_2 + \cdots + m_nx_n}{m_1 + m_2 + \cdots + m_n}$ $= \dfrac{\sum_{i=1}^{n} m_ix_i}{\sum_{i=1}^{n} m_i} = \dfrac{\sum m_ix_i}{\sum m_i}$ (7.2)
Page 151, figure 7.15 (b)	Figure 7.15(b) looks blurred	
Page 156, column 1 para 4& column 2 equation (7.28a)	$\boldsymbol{r} \times \dfrac{d\boldsymbol{p}}{dt} = \boldsymbol{r} \times \boldsymbol{F} = t$ Hence, $\frac{d}{dt}(\boldsymbol{r} \times \boldsymbol{p}) = t$ or $\frac{d\boldsymbol{l}}{dt} = t$ (7.27) $\frac{d\mathbf{L}}{dt} = \frac{d}{dt}(\sum \mathbf{l}_i) = \sum_i \frac{d\mathbf{l}_i}{dt} = \sum_i\ t_i$ (7.28a)	$\boldsymbol{r} \times \dfrac{d\boldsymbol{p}}{dt} = \boldsymbol{r} \times \boldsymbol{F} = \boldsymbol{\tau}$ Hence, $\frac{d}{dt}(\boldsymbol{r} \times \boldsymbol{p}) = \boldsymbol{\tau}$ or $\frac{d\boldsymbol{l}}{dt} = \boldsymbol{\tau}$ (7.27) $\frac{d\mathbf{L}}{dt} = \frac{d}{dt}(\sum \mathbf{l}_i) = \sum_i \frac{d\mathbf{l}_i}{dt} = \sum_i\ \boldsymbol{\tau}_i$ (7.28a)
Page 157, column 1, line 22 & 23 & column 2 Answer of example 7.5	Since $\boldsymbol{t} = \sum \boldsymbol{t}_i$ $\dfrac{d\mathbf{L}}{dt} = \mathbf{t}_{ext}$ torque $\mathbf{t} = \mathbf{r} \times \mathbf{F}$ or $\mathbf{t} = 2\hat{\mathbf{i}} + 12\hat{\mathbf{j}} + 10\hat{\mathbf{k}}$	Since $\boldsymbol{\tau} = \sum \boldsymbol{\tau}_i$ $\dfrac{d\mathbf{L}}{dt} = \boldsymbol{\tau}_{ext}$ torque $\boldsymbol{\tau} = \mathbf{r} \times \mathbf{F}$ or $\boldsymbol{\tau} = 2\hat{\mathbf{i}} + 12\hat{\mathbf{j}} + 10\hat{\mathbf{k}}$
Page 158, column 2 equation (7.30b)	$\boldsymbol{\tau}_1 + \boldsymbol{\tau}_2 + \cdots + \boldsymbol{\tau}_n = \sum_{t=1}^{n} \boldsymbol{\tau}_1 0$	$\boldsymbol{\tau}_1 + \boldsymbol{\tau}_2 + \cdots + \boldsymbol{\tau}_n = \sum_{i=1}^{n} \boldsymbol{\tau}_i = 0$
Page 161, equation (7.33)	$\mathrm{t_g} = \sum \mathrm{t_i} = \sum \mathbf{r}_i \times \mathrm{m_i}\mathbf{g} = 0$	$\boldsymbol{\tau}_g = \sum \boldsymbol{\tau}_i = \sum \boldsymbol{r}_i \times m_i\boldsymbol{g} = 0$
Page 168, column 2, line 7	$w = \int a\ dt + c$	$\omega = \int \alpha dt + c$

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Location	Error	Correction
Page 170, column 2 para 3 & 4	$\frac{d}{dt}\left(\frac{Iw^2}{2}\right) = I\frac{(2w)}{2}\frac{dw}{dt}$ $\frac{d}{dt}\left(\frac{Iw^2}{2}\right) = I\,w\,a$	$\frac{d}{dt}\left(\frac{I\omega^2}{2}\right) = I\frac{(2\omega)}{2}\frac{d\omega}{dt}$ $\frac{d}{dt}\left(\frac{I\omega^2}{2}\right) = I\,\omega\,\alpha$
Page 171, column 2 line 16	$w^2 = 2 \times 12.5 \times 10.0 = 250\ (rad/s)^2$	$\omega^2 = 2 \times 12.5 \times 10.0 = 250\ (rad/s)^2$
Page 172, column 2 para 4	$\frac{d}{dt}(\mathbf{L}_z) = \left(\frac{d}{dt}(I\,w)\right)\hat{\mathbf{k}}$	$\frac{d}{dt}(\mathbf{L}_z) = \left(\frac{d}{dt}(I\,\omega)\right)\hat{\mathbf{k}}$
Page 174, column 2 equations (7.47) & (7.48)	$u_{cm} = Rw$ (7.47) Equation (7.48) is missing	$v_{cm} = R\omega$ (7.47) $K = K' + MV^2/2$ (7.48)
Page 176, para 10 & 11	$t = \sum_1 \boldsymbol{r}_i \times \boldsymbol{F}_i$ $\frac{d\boldsymbol{L}}{dt} = \boldsymbol{t}_{ext}$ $\sum t_i = \sum \mathbf{r_i} \times \mathbf{F}_i = 0$	$\boldsymbol{\tau} = \sum \boldsymbol{r}_i \times \boldsymbol{F}_i$ $\frac{d\boldsymbol{L}}{dt} = \boldsymbol{\tau}_{ext}$ $\sum \boldsymbol{\tau}_i = \sum \mathbf{r_i} \times \mathbf{F}_i = 0$
Page 182, line 7	$\frac{d\boldsymbol{L}'}{dt} = t'_{ext}$	$\frac{d\boldsymbol{L}'}{dt} = \boldsymbol{\tau}'_{ext}$
Page 190, equation (8.10)	$F = Gm\left(\frac{4p}{3}r\right)\frac{r^3}{r^2} = Gm\left(\frac{M_E}{R_E^3}\right)\frac{r^3}{r^2}$	$F = Gm\left(\frac{4\pi}{3}\rho\right)\frac{r^3}{r^2} = Gm\left(\frac{M_E}{R_E^3}\right)\frac{r^3}{r^2}$
Page 197, column 1 para 2 line 2	h 1	$h \approx$
Page 210, Appendix A5	Trigonometric Functions of Angle θ to be corrected	$\sin\theta = \frac{y}{r}$ $\cos\theta = \frac{x}{r}$ $\tan\theta = \frac{y}{x}$ $\cot\theta = \frac{x}{y}$ $\sec\theta = \frac{r}{x}$ $cosec\ \theta = \frac{r}{y}$
Page 211, column 1, last line		a, b should read as α, β respectively
Page 211, Column 2, line 2, line 4 & line 7		$= 2\cos\frac{1}{2}(\alpha+\beta)\cos\frac{1}{2}(\alpha-\beta)$ $= -2\sin\frac{1}{2}(\alpha+\beta)\sin\frac{1}{2}(\alpha-\beta)$ $(1-x)^{-n} = 1 + \frac{nx}{1!} + \frac{n(n+1)x^2}{2!} + \cdots (x^2 < 1)$

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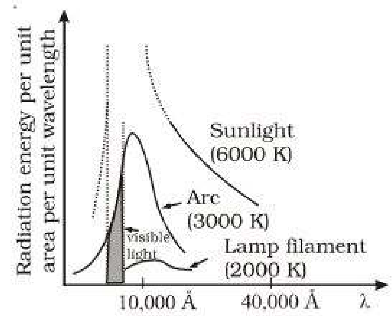
Location	Error	Correction
Page 256 Column 2 line No. 7	$j0.67 \times 10^{-2} m = 0.67\ cm$	$\simeq 0.67 \times 10^{-2} m = 0.67\ cm$
Page 262 Column 2, Equation 10.18	$h = \frac{F/A}{v/l} = \frac{Fl}{vA}$	$\eta = \frac{F/A}{v/l} = \frac{Fl}{vA}$
Page 263, Column 2, line 7line 8	s^{-1} to be inserted $h = \frac{\text{stress}}{\text{strain rate}} s^{-1}$	$Strain\ rate = \frac{v}{l} = \frac{0.085}{0.30 \times 10^{-3}} s^{-1}$ $\eta = \frac{\text{stress}}{\text{strain rate}}$
Page 264 Column 1, equation 10.19	Equation 10.19 ismissing	$F = 6\pi\eta a v$ (10.19)
Page 294	Missing figure 11.18	 Figure 11.18 *Energy emitted versus wavelength for a blackbody at different temperatures*
Page 311 Column 2, equation (12.12)	$= \text{mRT} \int_{V_1}^{V_2} \frac{dV}{V} = \text{mRT} \ln \frac{V_2}{V_1}$(12.12)	$= \mu\text{RT} \int_{V_1}^{V_2} \frac{dV}{V} = \mu\text{RT}\ ln \frac{V_2}{V_1}$(12.12)
Page 312, column 2 equations (12.15) & (12.16)	$\frac{constant}{(1-\gamma)} \times \left[\frac{1}{V_2^{\gamma-1}} - \frac{1}{V_1^{\gamma-1}}\right]$(12.15) $W = \frac{1}{1-g}\left[\frac{P_2V_2^g}{V_2^{g-1}} - \frac{P_1V_1^g}{V_1^{g-1}}\right]$ $= \frac{1}{1-g}[P_2V_2 - P_1V_1] = \frac{mR(T_1-T_2)}{g-1}$(12.16)	$= \frac{constant}{(1-\gamma)} \times \left[\frac{1}{V_2^{\gamma-1}} - \frac{1}{V_1^{\gamma-1}}\right]$(12.15) $W = \frac{1}{1-\gamma}\left[\frac{P_2V_2^\gamma}{V_2^{\gamma-1}} - \frac{P_1V_1^\gamma}{V_1^{\gamma-1}}\right]$ $= \frac{1}{1-\gamma}[P_2V_2 - P_1V_1] = \frac{\mu R(T_1-T_2)}{\gamma-1}$(12.16)
Page 317, column 1 equations (12.24), (12.25), (12.26) & last line Column 2 (12.29),(12.30) & (12.32)	$W_{2\to3} = \frac{mR(T_1-T_2)}{g-1}$ (12.24) $W_{3\to4} = Q_2 = mRT_2 ln\left(\frac{V_3}{V_4}\right)$(12.25) $W_{4\to1} = mR\left(\frac{T_1-T_2}{g-1}\right)$(12.26) $T_1V_2^{g-1} = T_2V_3^{g-1}$ $\frac{V_2}{V_3} = \left(\frac{T_2}{T_1}\right)^{1/(g-1)}$ (12.29) $T_2V_4^{g-1} = T_1V_1^{g-1}$ i.e. $\frac{V_1}{V_4} = \left(\frac{T_2}{T_1}\right)^{1/g-1}$ (12.30) $h = 1 - \frac{T_2}{T_1}$ (Carnot engine) (12.32)	$W_{2\to3} = \frac{\mu R(T_1-T_2)}{\gamma-1}$(12.24) $W_{3\to4} = Q_2 = \mu RT_2 ln\left(\frac{V_3}{V_4}\right)$(12.25) $W_{4\to1} = \mu R\left(\frac{T_1-T_2}{\gamma-1}\right)$(12.26) $T_1V_2^{\gamma-1} = T_2V_3^{\gamma-1}$ $\frac{V_2}{V_3} = \left(\frac{T_2}{T_1}\right)^{1/(\gamma-1)}$(12.29) $T_2V_4^{\gamma-1} = T_1V_1^{\gamma-1}$ i.e. $\frac{V_1}{V_4} = \left(\frac{T_2}{T_1}\right)^{1/(\gamma-1)}$(12.30) $\eta = 1 - \frac{T_2}{T_1}$ (Carnot engine) (12.32)

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Location	Error	Correction
Page 328, column 1 line 12	$\frac{r_1}{r_2} = \frac{m_1/V}{m_2/V} = \frac{m_1}{m_2} = \frac{m_1}{m_2} \times \left(\frac{M_1}{M_2}\right)$	$\frac{\rho_1}{\rho_2} = \frac{m_1/V}{m_2/V} = \frac{m_1}{m_2} = \frac{\mu_1}{\mu_2} \times \left(\frac{M_1}{M_2}\right)$
Page 347, Answer of example 14.4 line 8 & 10	$x(t) = A\ cos\left(\frac{2p}{T}t + \frac{p}{4}\right)$ $x(t) = A\ cos\left(\frac{2p}{4}t + \frac{p}{4}\right)$	$x(t) = A\ cos\left(\frac{2\pi}{T}t + \frac{\pi}{4}\right)$ $x(t) = A\ cos\left(\frac{2\pi}{4}t + \frac{\pi}{4}\right)$
Page 348, column 1 line 4,7,8,10 &11	and makes an angle of $\left(\frac{p}{2} - \frac{2p}{T}t\right)$ $x(t) = B\ cos\left(\frac{p}{2} - \frac{2p}{T}t\right)$ $= B\ sin\ \left(\frac{2p}{T}t\right)$ $x(t) = B\ sin\ \left(\frac{p}{15}t\right)$ Writing this as $x(t) = B\ cos\ \left(\frac{p}{15}t - \frac{p}{2}\right)$	and makes an angle of $\left(\frac{\pi}{2} - \frac{2\pi}{T}t\right)$ $x(t) = B\ cos\left(\frac{\pi}{2} - \frac{2\pi}{T}t\right)$ $= B\ sin\ \left(\frac{2\pi}{T}t\right)$ $x(t) = B\ sin\ \left(\frac{\pi}{15}t\right)$ Writing this as $x(t) = B\ cos\ \left(\frac{\pi}{15}t - \frac{\pi}{2}\right)$
Page 358, equation (14.40)	$A = \frac{F_o}{m(w^2 - w_d^2)}$ (14.40)	$A = \frac{F_o}{m(\omega^2 - \omega_d^2)}$(14.40)
Page 372, column 1, section 15.3.2, line 12	$\sin kx = \sin(kx + 2np)$ $= \sin k\left(x + \frac{2np}{k}\right)$	$\sin kx = \sin(kx + 2n\pi) = \sin k\left(x + \frac{2n\pi}{k}\right)$
Page 373, column 1, last line in answer	=(0.005 m) sin (97^0) j5 mm	=(0.005 m) sin (97^0) ≈5 mm
Page 387, column 2, last line in answer	j	≈