A Course in Multivariable Calculus and Analysis

Errata

Last Update: August 29, 2025

In the following, **p. i, line +j** means the jth line from the top on page i, whereas **p. i, line −j** means the jth line from the bottom on page i. The text to be changed appears after the word Change, while the corrected version appears after the word to.

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p. 5, line +16: Change least upper bound to greatest lower bound

p. 10, line −12: Change $f(x,y) \geq 0$ to $f(x,y) > 0$

p. 34, line −6: Change handled them with to handled with

p. 37, line +20 to +22: Change the entire Exercise 24 to Let D be a convex subset of $\mathbb{R}^2$ and let f be a convex function on D. If (x,y) and $(-x,-y)$ belong to D, then show that $(0,0) \in D$ and $2f(0,0) \leq f(x,y) + f(-x,-y)$.

p. 45, line +2: Change If to Let $a_n \to a$. If

p. 85, line −10 : Change D to D_1

p. 88, line +5: Change $x_0 \in [c,d]$ to $x_0 \in [a,b]$

p. 97, line +4 : Change $f_{i,j}$ to $g_{i,j}$

p. 97, line −13: Change $u : D \to \mathbb{R}^2$ to $u : D \to \mathbb{R}$

p. 97, line −8: Change f Change g

p. 117, line +7: Change differentiable to nonconstant differentiable

p. 117, llne +8: Change does not vanish to vanishes

p. 118, line −10: Change $f(x,y)$ to $f(x_1,y_1)$

p. 118, line −10: Change at two places $k\dfrac{\partial}{\partial x}$ to $k\dfrac{\partial}{\partial y}$

p. 122, line −5 : Change $\begin{bmatrix} \dfrac{\partial x}{\partial t} \\ \\ \dfrac{\partial y}{\partial t} \end{bmatrix}$ to $\begin{bmatrix} \dfrac{dx}{dt} \\ \\ \dfrac{dy}{dt} \end{bmatrix}$

p. 123, line −3: Change (at two places) $\dfrac{dF}{dz}$ to $\dfrac{dg}{dz}$

p. 124, lines +10, +11, −14, −13: Change $\dfrac{\partial F}{\partial x}$ to $\dfrac{\partial f}{\partial x}$

p. 124, lines +10, +11, −14, −13: Change $\dfrac{\partial F}{\partial y}$ to $\dfrac{\partial f}{\partial y}$

p. 154, line +9: Change $\sqrt{h^2+k^2}$ to $|h|+|k|$

p. 155, line +10: Change 18 (ii) to 18 (ii) of Chapter 2

p. 155, line +10: Change 19 to 19 of Chapter 2

p. 156, line −2: CHANGE $(y-b)(z-c)$ TO $(y-c)(z-p)$

p. 163, line +15: CHANGE vanishes TO is equal to the zero vector

p. 163, line +20: CHANGE $\nabla f = \lambda \nabla g$ TO $\nabla f(x,y) = \lambda \nabla g(x,y)$

p. 165, line +10: CHANGE $\nabla f = \lambda \nabla g$ TO $\nabla f(x,y,z) = \lambda \nabla g(x,y,z)$

p. 165, line −17: CHANGE ∇g TO $\nabla g(x,y,z)$

p. 166, line +22: CHANGE $\mu\, h(x,y,z)$ TO $\mu \nabla h(x,y,z)$

p. 187, line −10: CHANGE $1/n, 1/k$ TO $(b-a)/n, (d-c)/k$

p. 202, line +2: CHANGE P TO P_ϵ

p. 202, line −4: CHANGE $f(x,y))$ TO $f(x,y)$

p. 213, line +11: CHANGE R TO $\mathbb{R}$

p. 213, line −6: CHANGE 5.19 TO 5.23

p. 219, line −6: CHANGE $0 \le a < b$ and $0 \le c < d$ TO $0 < a < b$ and $0 < c < d$

p. 220, line −13: CHANGE Moreover, by Proposition 5.28, we have TO Moreover,

p. 222, line −4: Change subintervals TO subrectangles

p. 223, line +1: CHANGE subintervals TO subrectangles

p. 223, lines −13, −9: CHANGE any TO an arbitrary

p. 223, line −8: CHANGE double integrable TO integrable

p. 224, line +3: CHANGE $[a,b) \times [c,d)$ TO $[a,b] \times [c,d]$

p. 238, line −19: CHANGE iterated integral TO integral

p. 245, line +14: CHANGE and $D_1 \cap D_2$ are TO and $D_1 \cap D_2$ is

p. 268, line +18: CHANGE Exercise 43 TO Exercise 43 of Chapter 3

p. 272, line −10: CHANGE $d(y,z)$ TO $d(x,y)$

p. 272, line −9: CHANGE $f(x,y,z)$ TO $\int_{\phi_1(x,y)}^{\phi_2(x,y)} f(x,y,z)dz$

p. 275, line +16: CHANGE f TO $f \circ \Phi$

p. 278: CHANGE Figure 5.26 TO THIS Revised Figure

p. 282, line −3: CHANGE $x \le y$ TO $y \le x$

p. 285, line +19: CHANGE 49/192 TO 49/576

p. 302, line −16: CHANGE D, yz-plane TO D by the yz-plane

p. 303, line +11: CHANGE $[-\pi,\pi] \times [f_1(x), f_2(x)]$ TO $[f_1(x), f_2(x)] \times [-\pi,\pi]$

p. 349, line −5: CHANGE the the TO the

p. 350, line +10: CHANGE of TO under

p. 359, line −6: CHANGE tetrahedron D TO tetrahedral region D in $\mathbb{R}^3$

p. 359, line −4: CHANGE polyhedron TO polyhedral region

p. 416, line −13: CHANGE Proposition 5.19 TO Proposition 5.20

From p. 422, line −6 to p. 425, line −11: CHANGE the entire text from the statement of the Integral Test until the beginning of the next subsection TO THIS Revised Text

p. 438, line +10: CHANGE if and only if TO if and only if there is

p. 442, lines +1, −1: CHANGE subsets TO subset

p. 456, line +3: CHANGE diverge to ∞. (Hint: Divergence of TO converge if $p > 1$ and diverge to ∞ if $p \leq 1$. (Hint: Convergence as well as divergence of

p. 471, line −6, left column: CHANGE area, 186, 241 TO area, 186, 241, 441

p. 473, line +12, right column: DROP iterated series, 381

p. 475, line +10, left column: CHANGE smooth TO smooth curve

Please notify the authors if you know of errata not on the above list. Please write to any one or both of the following:

`srg@math.iitb.ac.in` `bvl@math.iitb.ac.in`

A continuously updated version of the errata is available at:

`http://www.math.iitb.ac.in/~srg/acimc/`