# The Table of Errata 

| Places | Wrong | True |
| :--- | :--- | :--- |
| P2,L15 | $\phi_{G}$ | $\psi_{G}$ |
| P2,L17 | convenience | convenient |
| P3,L4 | holding | held |
| P5,L4 | It quite natural | It is quite natural |
| P9,Figure 1.7 | $G\left\{x_{1}, x_{3}\right\}, G\left\{e_{1}, e_{5}\right\}$ | $G-\left\{x_{1}, x_{3}\right\}, G-\left\{e_{1}, e_{5}\right\}$ |
| P13,L17 | an edge of $G$ | an edge of $W$ |
| P14,L5 | it $G$ is | if $G$ is |
| P15,L-1 | number of | number of different |
| P20,L4 | rato | ratio |
| P20,L-11,-2,-1 | gust | guest |
| P21,L-5 | avoids | avoid |
| P23,L-3 | This is reason | This is the reason |
| P26,L17,22 | $\sum_{x, y \in V}$ | $\sum_{x, y \in V, x \neq y}$ |
| P28,L5 | massage | message |
| P28,L13 | very pair of | every pair of |
| P28,L24 | to denoted | to denote |
| P29,L-3 | result in difficult | result in difficulty |
| P33,L-6 | th execution | the execution |
| P34,L1 | be fault | to be fault |
| P38,L14 | advantage | advantageous |
| P40,L-12 | is a | be a |
| P40,L-10 | by edge | by an edge |
| P41,L-7 | the necessity | the sufficiency |
| P41,L6 | the sufficiency | the necessity |
| P42,L9 | is a | be a |
| P42,L-1 | necessity | sufficiency |
| P43,Figure 2.2 | the undirected edge | the directed edge from 110 to 100 |
| P43,L1 | For sufficiency | For necessity |
| P46,L1 | is a | be a |
| P46,L-2 | $G$ | $L(G)$ |
| P46,L-1 | $L(G)$ | $G$ |
| P47,L16 | $h$ | $h(\leq n+1)$ |
| P47,L18 | vertices | is |
| P48,L-8 | if of significant | is of significance |
| P51,L-5 | a large of number | a large number of |
| P53,L7 | $\theta$ in | $\theta$ is |
|  |  |  |


| P56,L-14 | is to an | is also an |
| :---: | :---: | :---: |
| P56,L-13 | The the | The |
| P57,L11 | $K_{m, n}$ | $K_{n, n}$ |
| P58,L3 | that $V_{1} \neq V_{2}$ and, moreover, | that |
| P60,L-10 | are an | be an |
| P61,L16 | $x, y \in V(G)$ | $x, y \in A$ |
| P64,L-14 | either $C \subset A_{i}$ | either $A_{i} \subset C$ |
| P65,L13 | If $s$ is a selt- | If s is a self- |
| P65,L-1 | $z=s^{-1} x$ | $z=x s^{-1}$ |
| P67,L8 | Cayle Graphs | Cayley Graphs |
| P71,L2 | $g_{i} \rightarrow g_{i} g_{j}$ | $g_{j} \rightarrow g_{i} g_{j}$ |
| P71,L-13 | $s=\{a, b, a b\}$ | $S=\{a, b, a b\}$ |
| P75,L1 | $1 \in S$ | $1 \notin S$ |
| P77,L-5 | ++ | + |
| P81,L-5,-2 | $d\left(G_{1} \times G_{2}\right) \leq d$ | $d$ |
| P82,L1 | $P x_{2} \cup y_{1} Q$ | $P x_{2} \cup y_{1} W$ |
| P82,L3 | $d\left(G_{1} \times G_{2}\right) \leq d$ | d |
| P87,L-8 | $\left(S_{1} \times\left\{e_{1}\right\}\right)$ | $\left(S_{1} \times\left\{e_{2}\right\}\right)$ |
| P91,L6 | the first . . the last | the last $\cdots$ the first |
| P96,L14 | the wab page | the web page |
| P98,L4 | the sume of them | the sum of them |
| P99,Figure 2.13 | A (4, 2)-digraph | A (2, 4)-digraph |
| P100,L-15 | the lower bound | the upper bound |
| P105,L1 | four the well-known | four well-known |
| P108,L-12 | it sufficient | it is sufficient |
| P109,L1 | due to Haray | due to Harary |
| P109,L4 | tring | string |
| P111,L-4 | $m=\frac{1}{2}(l-2)$ | $m=\frac{1}{2} l$ |
| P112,L-8 | $1 R_{2}, \cdots, R_{n-1}^{1}$ | $1 R_{2}, \cdots, 1 R_{n-1}$ |
| P114,L9,10 | gust | guest |
| P114,L20 | it become | it becomes |
| P114,L-5 | Let $T_{n}$ is a | Let $T_{n}$ be a |
| P119,L-8 | $C Q_{n}$ is vertex-transitive | $C Q_{n}$ is not vertex-transitive for $n \geq 5$ |
| P121,L14 | $x_{2} \cdots x_{n-1} \alpha$ | $x_{2} \cdots x_{n} \alpha$ |
| P129,L16 | $x_{n-(p+q)+c+1}$ | $x_{n-(p+q)+a+1}$ |
| P130,L-2 | $\cdots x_{a} x_{a+1}$ | $\cdots x_{a}$ |
| P130,L-1 | $\cdots x_{b} x_{b+1}$ | $\cdots x_{b}$ |
| P131,L2 | $\cdots x_{a}=x_{b} \cdots x_{b}$ | $\cdots x_{a-1}=x_{b} \cdots x_{b-1}$ |
| P133,L-13 | $i=1, \cdots, m$ | $l=1, \cdots, m$ |
| P143,L9,10 | $=$ | $\equiv$ |
| P147,L-2 | $V_{i} \cap U \neq \emptyset$ | $V_{i} \cap X \neq \emptyset$ |
| P150,L-8 | $\leq$ | $\geq$ |
| P155,L-2 | Wang | Wong |
| P188,L-12 | with a give routing | with a given routing |
| P188,L-4 | $d\left(W_{7}\right)=3$ | $d\left(W_{7}\right)=2$ |
| P190,L2 | to minimizing | to minimize |


| P190,L-13 | we can easily establised | we can easily establish |
| :---: | :---: | :---: |
| P190,L-1 | $K_{1, n}$ | $K_{1, n-1}$ |
| P191,L-3 | $=\tau_{y}(G, \rho)$ | $=\tau_{y}\left(G, \rho_{m}\right)$ |
| P193,L14 | we can determined | we can determine |
| P193,L-9,-8 | $\binom{i}{n}$ | $\binom{n}{i}$ |
| P193,L-8 | $i\binom{i}{n-1}$ | $\binom{n-1}{i}$ |
| P194,L-7 | directed digraphs | connected digraphs |
| P196,L12 | max | min |
| P197,L14 | $\pi(G) \geq \pi(G, \rho) \geq$ | $\pi(G, \rho) \geq$ |
| P197,L-3,-1 | $2 \pi_{x}(G, \rho)$ | $2 \tau_{x}(G, \rho)$ |
| P198,L2 | $2 \pi_{x}(G, \rho)$ | $2 \tau_{x}\left(G, \rho^{\prime}\right)$ |
| P198,L14 | $\tau_{y}(G, \rho)$ | $\tau_{y}\left(G, \rho_{0}\right)$ |
| P201,L-1 | the unique shortest | the unique shortest path |
| P203,L10 | there an | there is an |
| P203,L11 | If $x, y \in S$ | If $x, y \in S \backslash F$ |
| P203,L-13 | to denoted | to denote |
| P204,L1 | $X_{h} \cap x_{i}$ | $X_{h} \cap X_{i}$ |
| P206,L6 | For $G$ be | Let $G$ be |
| P209,Figure 4.3 | $x_{j^{\prime}}$ | $x_{j}$ |
| P209,Figure 4.3 | $x_{i^{\prime}}$ | $x_{j^{\prime}}$ |
| P209,Figure 4.3 | $x_{j}$ | $x_{i^{\prime}}$ |
| P216,L-1 | to studied | to study |
| P218,L3 | we have can derive | we can derive |
| P220,in (4.29) | $\{x\}$ | $\left\{x_{1}\right\}$ |
| P221,L10 | We are interested in | What we are interested in |
| P222,L2 | Au upper bound | An upper bound |
| P223,L-6 | One | On |
| P223,L-5 | 4 edge | 4 edges |
| P223,L-4 | 3 difficult edges | 3 different edges |
| P225,L-7 | $t$ from | $t$ edges from |
| P227,L-2 | $F \subset V(G)$ | $F \subset V(G) \backslash\{x, y\}$ |
| P228,L1 | $F \subset V(G)$ | $F \subset V(G) \backslash\{x, y\}$ |
| P228,L4 | $F \subset V(G)$ | $F \subset V(G) \backslash\{x, y\}$ |
| P228,L6 | $F \subset V(G)$ | $F \subset V(G) \backslash\{x, y\}$ |
| P228,L1 | $\|F\|=t-1$ | $\|F\|=w-1$ |
| P228,L8 | $C_{2}$ | $C_{n}$ |
| P230,L4 | this boung | this bound |
| P230,L-1 | $\|i-j\|+$ | $\|i-j\|=$ |
| P231,L7 | therefor | therefore |
| P235,L10,19 | with respect $l$ | with respect to $l$ |
| P235,L-12 | systems | system |
| P243,L-2 | $\kappa(G ; x, y)=\omega$ | $\kappa(G)=\omega$ |
| P246,L-14 | ( $x, y$ )-Manger | ( $x, y$ )-Menger |
| P247,L14,15 | $L_{G}(x, y)$ | $L_{G^{\prime}}(x, y)$ |
| P249,L5 | of significant | of significance |
| P249,L8 | there are | there are a |


| P249,L-14 | greater or equal than | greater than or equal to |
| :---: | :---: | :---: |
| P252,L18 | In other worlds | In other words |
| P257,L6 | the maximum | the minimum |
| P259,L9 | $d(G) \leq 2$ | $d_{w}(G) \leq 2$ |
| P252,Theorem 4.4.6 | wrong | see |
| P269,L4 | two verices | two vertices |
| P269,L6 | $m$ | $w$ |
| P271,L-13 | wid-diameter | wide-diameter |
| P273,L3 | Krishanmurthy [171] | Krishnamurthy [171] |
| P274,L13 | the maximum | the minimum |
| P275,L9 | $m$ | $w$ |
| P276,L14 | of significant | of significance |
| P278,L6 | $=\frac{d_{w}(G)}{m l-2 m+1}$ | $\geq \frac{d_{w}(G)}{w l-2 w+1}$ |
| P278,L-4 | $=$ | $\leq$ |
| P279,L-9 | is of significant | is of significance |
| P279,L-2 | of interesting | of interest |
| P280,L7 | $\gamma_{2,2}$ | $\gamma_{2,2}(G)$ |
| P280,L8 | $\gamma_{l+1, m}(G)$ | $\gamma_{l+1, w}(G)$ |
| P280,L14 | $\leq d^{l}$ | $\leq l$ |
| P280,L-13 | is two | are two |
| P280,L-12 | Let $x \in S$ | Let $x \in S$ be |
| P280,L-9 | $R_{1}=y z$ | $R_{1}=y x$ |
| P281,L1 | Let $G$ be | Let $G$ be a |
| P281,L11 | $q \geq p+1$ | $q \geq l+1$ |
| P281,L-6 | $I \backslash A$ | I |
| P282,L-4 | Let $I$ is a | Let $I$ be a |
| P283,L1 | $I$ is an independent set | $I$ is an (l, )-independent set |
| P283,L11 | if $d=2 j$ | if $l=2 j$ |
| P284,L-2 | $\alpha_{l, 1}$ | $\alpha_{2 l, 1}(G)$ |
| P285,L-12 | with order | order |
| P285,L-8 | to denoted | to denote |
| P286,L9 | let $S=I^{\prime} \cup\left\{x_{0}\right\}$ | let $I=I^{\prime} \cup\left\{x_{0}\right\}$ |
| P286,L-5 | $S$ is a | $I$ is a |
| P286,L-4 | $\|I\|=$ | $\left\|I^{\prime}\right\|=$ |
| P287,L-14 | the upper bound | the lower bound |
| P287,L-13 | the lower bound | the upper bound |
| P288,L-6 | Througtout | Throughout |
| P289,L4,5 | $\binom{k}{n}$ | $\binom{n}{k}$ |
| P289,L5 | one many look | one may look |
| P289,L-14 | Hakimi [91] | Hakimi [92] |
| P299,L3 | contain | contains |
| P303,L16 | ourselvies | ourselves |
| P303,L-12 | $m$-regular | $d$-regular |
| P306,L-15 | $V\left(Q_{n-1}^{i} \cap X\right.$ | $V\left(Q_{n-1}^{i}\right) \cap X$ |
| P339,L-11 | gust graph | guest graph |

