



Padalsalai's Telegram Groups!

(தலைப்பிற்கு கீழே உள்ள லிங்கை கிளிக் செய்து குழுவில் இணையவும்!)

- Padalsalai's NEWS - Group
https://t.me/joinchat/NIfCqVRBNj9hhV4wu6_NqA
- Padalsalai's Channel - Group
<https://t.me/padasalaichannel>
- Lesson Plan - Group
<https://t.me/joinchat/NIfCqVWwo5iL-21gpzrXLw>
- 12th Standard - Group
https://t.me/Padalsalai_12th
- 11th Standard - Group
https://t.me/Padalsalai_11th
- 10th Standard - Group
https://t.me/Padalsalai_10th
- 9th Standard - Group
https://t.me/Padalsalai_9th
- 6th to 8th Standard - Group
https://t.me/Padalsalai_6to8
- 1st to 5th Standard - Group
https://t.me/Padalsalai_1to5
- TET - Group
https://t.me/Padalsalai_TET
- PGTRB - Group
https://t.me/Padalsalai_PGTRB
- TNPSC - Group
https://t.me/Padalsalai_TNPSC

Find the Value of Resistance Parallel connection

(i) $R_1 = 1\Omega$ $R_2 = 2\Omega$ $R_3 = 3\Omega$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R_p} = \frac{1}{1} + \frac{1}{2} + \frac{1}{3}$$

$$\frac{1}{R_p} = \frac{1 \times 6}{1 \times 6} + \frac{1 \times 3}{2 \times 3} + \frac{1 \times 2}{3 \times 2}$$

$$\frac{1}{R_p} = \frac{6}{6} + \frac{3}{6} + \frac{2}{6}$$

$$\frac{1}{R_p} = \frac{6+3+2}{6}$$

$$\frac{1}{R_p} = 11/6$$

$$R_p = 6/11 \Omega$$

(ii) $R_1 = 2\Omega$ $R_2 = 4\Omega$ $R_3 = 6\Omega$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R_p} = \frac{1}{2} + \frac{1}{4} + \frac{1}{6}$$

$$\frac{1}{R_p} = \frac{1 \times 6}{2 \times 6} + \frac{1 \times 3}{4 \times 3} + \frac{1 \times 2}{6 \times 2}$$

$$\frac{1}{R_p} = \frac{6}{12} + \frac{3}{12} + \frac{2}{12}$$

$$\frac{1}{R_p} = \frac{6+3+2}{12}$$

$$\frac{1}{R_p} = \frac{11}{12}$$

$$R_p = \frac{12}{11} \Omega$$

(iii) $R_1 = 2\Omega$ $R_2 = 2\Omega$ $R_3 = 2\Omega$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R_p} = \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

$$\frac{1}{R_p} = \frac{1+1+1}{2}$$

$$\frac{1}{R_p} = \frac{3}{2}$$

$$R_p = \frac{2}{3} \Omega$$

(iv) $R_1 = 3\Omega$ $R_2 = 3\Omega$ $R_3 = 3\Omega$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R_p} = \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$$

$$\frac{1}{R_p} = \frac{3}{3}$$

$$\frac{1}{R_p} = 1$$

$$R_p = 1 \Omega$$

5) $R_1 = 9 \Omega$ $R_2 = 9 \Omega$ $R_3 = 9 \Omega$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R_p} = \frac{1}{9} + \frac{1}{9} + \frac{1}{9}$$

$$\frac{1}{R_p} = \frac{3}{9}$$

$$\frac{1}{R_p} = \frac{1}{3}$$

$$R_p = 3 \Omega$$

6) $R_1 = 5 \Omega$ $R_2 = 5 \Omega$ $R_3 = 5 \Omega$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

$$\frac{1}{R_p} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$$

$$\frac{1}{R_p} = \frac{1+1+1}{5}$$

$$\frac{1}{R_p} = \frac{3}{5}$$

$$R_p = \frac{5}{3} \Omega$$

7)

$$R_1 = 2 \Omega$$

$$R_2 = 2 \Omega$$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2}$$

$$\frac{1}{R_p} = \frac{1}{2} + \frac{1}{2}$$

$$\frac{1}{R_p} = \frac{2}{2}$$

$$\frac{1}{R_p} = 1$$

$$R_p = 1 \Omega$$

8) $R_1 = 6 \Omega$ $R_2 = 6 \Omega$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2}$$

$$\frac{1}{R_p} = \frac{1}{6} + \frac{1}{6}$$

$$\frac{1}{R_p} = \frac{2}{6}$$

$$\frac{1}{R_p} = \frac{1}{3}$$

$$R_p = 3 \Omega$$

$$9) R_1 = 9\Omega \quad R_2 = 9\Omega$$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2}$$

$$\frac{1}{R_p} = \frac{1}{9} + \frac{1}{9}$$

$$\frac{1}{R_p} = \frac{2}{9}$$

$$R_p = \frac{9}{2}\Omega$$

$$10) R_1 = 3\Omega \quad R_2 = 5\Omega$$

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2}$$

$$\frac{1}{R_p} = \frac{1}{3} + \frac{1}{5}$$

$$\frac{1}{R_p} = \frac{1 \times 5}{3 \times 5} + \frac{1 \times 3}{5 \times 3}$$

$$\frac{1}{R_p} = \frac{5}{15} + \frac{3}{15}$$

$$\frac{1}{R_p} = \frac{8}{15}$$

$$R_p = \frac{15}{8}\Omega$$

Find the value of Resistance series connection

(i) $R_1 = 1\Omega$ $R_2 = 2\Omega$ $R_3 = 3\Omega$

$$R_s = R_1 + R_2 + R_3$$

$$R_s = (1 + 2 + 3)\Omega$$

$$R_s = 6\Omega$$

(ii) $R_1 = 2\Omega$ $R_2 = 4\Omega$ $R_3 = 6\Omega$

$$R_s = R_1 + R_2 + R_3$$

$$R_s = (2 + 4 + 6)\Omega$$

$$R_s = 12\Omega$$

(iii) $R_1 = 2\Omega$ $R_2 = 2\Omega$ $R_3 = 2\Omega$

$$R_s = R_1 + R_2 + R_3$$

$$R_s = (2 + 2 + 2)\Omega$$

$$R_s = 6\Omega$$

(iv) $R_1 = 3\Omega$ $R_2 = 3\Omega$ $R_3 = 3\Omega$

$$R_s = R_1 + R_2 + R_3$$

$$R_s = (3 + 3 + 3)\Omega$$

$$R_s = 9\Omega$$

$$5) R_1 = 9\Omega \quad R_2 = 9\Omega \quad R_3 = 9\Omega$$

$$R_s = R_1 + R_2 + R_3$$

$$R_s = (9 + 9 + 9)\Omega$$

$$R_s = 27\Omega$$

$$6) R_1 = 5\Omega \quad R_2 = 5\Omega \quad R_3 = 5\Omega$$

$$R_s = R_1 + R_2 + R_3$$

$$R_s = (5 + 5 + 5)\Omega$$

$$R_s = 15\Omega$$

$$7) R_1 = 2\Omega \quad R_2 = 2\Omega$$

$$R_s = R_1 + R_2$$

$$R_s = (2 + 2)\Omega$$

$$R_s = 4\Omega$$

$$8) R_1 = 6\Omega \quad R_2 = 6\Omega$$

$$R_s = R_1 + R_2$$

$$R_s = (6 + 6)\Omega$$

$$R_s = 12\Omega$$

$$9) R_1 = 9\Omega \quad R_2 = 9\Omega$$

$$R_S = R_1 + R_2$$

$$R_S = (9 + 9)\Omega$$

$$R_S = 18\Omega$$

$$10) R_1 = 3\Omega \quad R_2 = 5\Omega$$

$$R_S = R_1 + R_2$$

$$R_S = (3 + 5)\Omega$$

$$R_S = 8\Omega$$

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Find the capacitor value of series connection:

(i) $C_1 = 1 \mu\text{f}$ $C_2 = 2 \mu\text{f}$ $C_3 = 3 \mu\text{f}$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$$

$$\frac{1}{C_S} = \frac{1}{1} + \frac{1}{2} + \frac{1}{3}$$

$$\frac{1}{C_S} = \frac{1 \times 6}{1 \times 6} + \frac{1 \times 3}{2 \times 3} + \frac{1 \times 2}{3 \times 2}$$

$$\frac{1}{C_S} = \frac{6}{6} + \frac{3}{6} + \frac{2}{6}$$

$$\frac{1}{C_S} = \frac{6+3+2}{6}$$

$$\frac{1}{C_S} = 11/6$$

$$C_S = 6/11 \mu\text{f} \quad (\text{or})$$

$$C_S = \frac{6}{11} \times 10^{-6} \text{ f}$$

(ii) $C_1 = 2 \mu\text{f}$ $C_2 = 4 \mu\text{f}$ $C_3 = 6 \mu\text{f}$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$$

$$\frac{1}{C_S} = \frac{1}{2} + \frac{1}{4} + \frac{1}{6}$$

$$\frac{1}{C_S} = \frac{1 \times 6}{2 \times 6} + \frac{1 \times 3}{4 \times 3} + \frac{1 \times 2}{6 \times 2}$$

$$\frac{1}{C_S} = \frac{6}{12} + \frac{3}{12} + \frac{2}{12}$$

$$\frac{1}{C_S} = \frac{6+3+2}{12}$$

$$\frac{1}{C_S} = \frac{11}{12}$$

$$C_S = \frac{12}{11} \mu\text{F} \quad (\text{or})$$

$$C_S = \frac{12}{11} \times 10^{-6} \text{ F}$$

$$(iii) \quad C_1 = 2 \mu\text{F} \quad C_2 = 2 \mu\text{F} \quad C_3 = 2 \mu\text{F}$$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$$

$$\frac{1}{C_S} = \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

$$\frac{1}{C_S} = \frac{1+1+1}{2}$$

$$\frac{1}{C_S} = \frac{3}{2}$$

$$C_S = \frac{2}{3} \mu\text{F} \quad (\text{or})$$

$$C_S = \frac{2}{3} \times 10^{-6} \text{ F}$$

$$(iv) \quad C_1 = 3\mu f \quad C_2 = 3\mu f \quad C_3 = 3\mu f$$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$$

$$\frac{1}{C_S} = \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$$

$$\frac{1}{C_S} = \frac{1+1+1}{3}$$

$$\frac{1}{C_S} = \frac{3}{3} \mu f$$

$$C_S = 1\mu f \quad (or)$$

$$C_S = 1 \times 10^{-6} f$$

$$(v) \quad C_1 = 9\mu f \quad C_2 = 9\mu f \quad C_3 = 9\mu f$$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$$

$$\frac{1}{C_S} = \frac{1}{9} + \frac{1}{9} + \frac{1}{9}$$

$$\frac{1}{C_S} = \frac{1+1+1}{9}$$

$$\frac{1}{C_S} = \frac{3}{9}$$

$$\frac{1}{C_S} = \frac{1}{3} \mu f$$

$$C_S = 3\mu f \quad (or)$$

$$C_S = 3 \times 10^{-6} f$$

(vi) $C_1 = 5 \mu\text{f}$ $C_2 = 5 \mu\text{f}$ $C_3 = 5 \mu\text{f}$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$$

$$\frac{1}{C_S} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$$

$$\frac{1}{C_S} = \frac{3}{5}$$

$$C_S = \frac{5}{3} \mu\text{f} \quad (\text{or})$$

$$C_S = \frac{5}{3} \times 10^{-6} \text{ f}$$

(vii) $C_1 = 2 \mu\text{f}$ $C_2 = 2 \mu\text{f}$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2}$$

$$\frac{1}{C_S} = \frac{1}{2} + \frac{1}{2}$$

$$\frac{1}{C_S} = \frac{2}{2}$$

$$C_S = 1 \mu\text{f}$$

$$C_S = 1 \times 10^{-6} \text{ f}$$

$$(VIII) C_1 = 6 \mu F$$

$$C_2 = 6 \mu F$$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2}$$

$$\frac{1}{C_S} = \frac{1}{6} + \frac{1}{6}$$

$$\frac{1}{C_S} = \frac{2}{6}$$

$$\frac{1}{C_S} = \frac{1}{3}$$

$$C_S = 3 \mu F \quad (\text{or})$$

$$C_S = 3 \times 10^{-6} \text{ f}$$

$$(ix) C_1 = 9 \mu F$$

$$C_2 = 9 \mu F$$

$$\frac{1}{C_S} = \frac{1}{C_1} + \frac{1}{C_2}$$

$$\frac{1}{C_S} = \frac{1}{9} + \frac{1}{9}$$

$$\frac{1}{C_S} = \frac{2}{9}$$

$$C_S = \frac{9}{2} \mu F \quad (\text{or})$$

$$C_S = \frac{9}{2} \times 10^{-6} \text{ f}$$

(X) $C_1 = 3 \mu\text{f}$ $C_2 = 5 \mu\text{f}$

$$\frac{1}{C_s} = \frac{1}{C_1} + \frac{1}{C_2}$$

$$\frac{1}{C_s} = \frac{1}{3} + \frac{1}{5}$$

$$\frac{1}{C_s} = \frac{1 \times 5}{3 \times 5} + \frac{1 \times 3}{5 \times 3}$$

$$\frac{1}{C_s} = \frac{5}{15} + \frac{3}{15}$$

$$\frac{1}{C_s} = \frac{8}{15}$$

$$C_s = \frac{15}{8} \mu\text{f} \quad (\text{or})$$

$$C_s = \frac{15}{8} \times 10^{-6} \text{ f}$$

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