8. Diketahui carried traffic yang terukur adalah 5 Erlang, dan jumlah trunk N pada sistem adalah 7. Berapa kali iterasi untuk mencapai nilai A yang cukup stabil (gunakah perhitungan dengan dua angka desimal)?

   a. 6

   b. 7

   c. 8

   d. 9

Y=5 Erlang

N = 7

$$A_{i+1} = Y/(1-B(N,A_i))$$

Note B(N,A) :

$$P(N) = B = \frac{\frac{A^N}{N!}}{1 + A + \frac{A^2}{2!} + \frac{A^3}{3!} + \cdots + \frac{A^N}{N!}}$$

Iterasi 0	$\frac{\frac{5^7}{7!}}{1+5+\frac{5^2}{2!}+\frac{5^3}{3!}+\frac{5^4}{4!}+\frac{5^5}{5!}+\frac{5^6}{6!}+\frac{5^7}{7!}}$	$= 0.1205186351$
	$\frac{5}{1-0.1205186351}$	$= 5.685168782$
Iterasi 1	$\frac{\frac{5.68^7}{7!}}{1+5.68+\frac{5.68^2}{2!}+\frac{5.68^3}{3!}+\frac{5.68^4}{4!}+\frac{5.68^5}{5!}+\frac{5.68^6}{6!}+\frac{5.68^7}{7!}}$	$= 0.1642044348$
	$\frac{5}{1-0.1642044348}$	$= 5.982324157$
Iterasi 2	$\frac{\frac{5.98^7}{7!}}{1+5.98+\frac{5.98^2}{2!}+\frac{5.98^3}{3!}+\frac{5.98^4}{4!}+\frac{5.98^5}{5!}+\frac{5.98^6}{6!}+\frac{5.98^7}{7!}}$	$= 0.1837527798$
	$\frac{5}{1-0.1837527798}$	$= 6.125595134$
Iterasi 3	$\frac{\frac{6.13^7}{7!}}{1+6.13+\frac{6.13^2}{2!}+\frac{6.13^3}{3!}+\frac{6.13^4}{4!}+\frac{6.13^5}{5!}+\frac{6.13^6}{6!}+\frac{6.13^7}{7!}}$	$= 0.1935053725$
	$\frac{5}{1-0.1935053725}$	$= 6.199669321$

Iterasi 4

$$\frac{\frac{6.19^7}{7!}}{1+6.19+\frac{6.19^2}{2!}+\frac{6.19^3}{3!}+\frac{6.19^4}{4!}+\frac{6.19^5}{5!}+\frac{6.19^6}{6!}+\frac{6.19^7}{7!}} = 0.197396565$$

$$\frac{5}{1-0.197396565} = 6.22972664$$

Iterasi 5

$$\frac{\frac{6.23^7}{7!}}{1+6.23+\frac{6.23^2}{2!}+\frac{6.23^3}{3!}+\frac{6.23^4}{4!}+\frac{6.23^5}{5!}+\frac{6.23^6}{6!}+\frac{6.23^7}{7!}} = 0.1999867523$$

$$\frac{5}{1-0.1999867523} = 6.249896504$$

Iterasi 6

$$\frac{\frac{6.25^7}{7!}}{1+6.25+\frac{6.25^2}{2!}+\frac{6.25^3}{3!}+\frac{6.25^4}{4!}+\frac{6.25^5}{5!}+\frac{6.25^6}{6!}+\frac{6.25^7}{7!}} = 0.2012805522$$

$$\frac{5}{1-0.2012805522} = 6.260020354$$

Iterasi 7

$$\frac{\frac{6.26^7}{7!}}{1+6.26+\frac{6.26^2}{2!}+\frac{6.26^3}{3!}+\frac{6.26^4}{4!}+\frac{6.26^5}{5!}+\frac{6.26^6}{6!}+\frac{6.26^7}{7!}} = 0.2019271129$$

$$\frac{5}{1-0.2019271129} = 6.265091924$$

Iterasi 8

$$\frac{\frac{6.27^7}{7!}}{1+6.27+\frac{6.27^2}{2!}+\frac{6.27^3}{3!}+\frac{6.27^4}{4!}+\frac{6.27^5}{5!}+\frac{6.27^6}{6!}+\frac{6.27^7}{7!}} = 0.2025734415$$

$$\frac{5}{1-0.2025734415} = 6.270169894$$

Iterasi 9

$$\frac{\frac{6.27^7}{7!}}{1+6.27+\frac{6.27^2}{2!}+\frac{6.27^3}{3!}+\frac{6.27^4}{4!}+\frac{6.27^5}{5!}+\frac{6.27^6}{6!}+\frac{6.27^7}{7!}} = 0.2025734415$$

$$\frac{5}{1-0.2025734415} = 6.270169894$$

Terlihat bahwa hasil iterasi 9 sudah sama dengan hasil iterasi 8. sehingga iterasi berhenti sampai iterasi 9 ini. Jadi Nilai A Stabil adalah pada iterasi 9