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Kelas: Manajemen Trafik A

1.a. $V_A = \frac{(60 \times 40 \times 8) + (20 \times 50 \times 8)}{4 \times 60} = \frac{27200}{240} = 113,33$ bps (Adit)

$V_B = \frac{(80 \times 50 \times 8) + (25 \times 50 \times 8)}{4 \times 60} = \frac{42000}{240} = 175$ bps (Dita)

$V = V_A + V_B = 113,33 + 175 = 288,33$ bps (Volume Total)

b. $A = \frac{113,33 + \left(\frac{1500 \times 8 \times 10^6}{240}\right)}{10 \times 10^6} = \frac{113,33 + 50000000}{10000000} = 5,00001$ Erlang

c. $A = \frac{175 + \left(\frac{24 \times 8 \times 10^9}{240}\right)}{100 \times 10^6} = \frac{175 + 800000000}{100000000} = 8,000001$ Erlang

2. a. $V_A = \frac{2000 \times 1000}{240} = 8333,33$ bps (Adit)

$V_B = \frac{2500 \times 1000}{240} = 10416,66$ bps (Dita)

$V = V_A + V_B = 8333,33 + 10416,66 = 18749,996$ bps (V Total)

b. $A = \frac{8333,33 + \left(\frac{1500 \times 8 \times 10^6}{240}\right)}{10 \times 10^6} = \frac{8333,33 + 50000000}{10000000} = 5,00083$ Erlang

c. $\frac{10416,66 + \left(\frac{24 \times 8 \times 10^9}{240}\right)}{100 \times 10^6} = \frac{10416,66 + 800000000}{100000000} = 8,0001$ Erlang

3. a. Volume Trafik WA:

$V_A = \frac{(60 \times 100 \times 8) + (50 \times 100 \times 8)}{5 \times 60} = \frac{88000}{300} = 293,33 \times 30 = 8799,9$ bps

Volume Trafik LINE:

$V_B = \frac{(50 \times 90 \times 8) + (60 \times 90 \times 8)}{5 \times 60} = \frac{79200}{300} = 264 \times 25 = 6600$ bps

Volume Trafik Messenger:

$V_C = \frac{(50 \times 100 \times 8) + (40 \times 100 \times 8)}{5 \times 60} = \frac{72000}{300} = 240 \times 25 = 6000$ bps

Volume Trafik Telepon :

$V_D = \frac{(2500 \times 500) + (3000 \times 600)}{5 \times 60} = 10166,66 \times 10 = 101666,66$ bps

Volume Trafik Browsing :

$V_E = \frac{100 \times 8000 \times 8}{5 \times 60} = \frac{6400000}{300} = 21333,33 \times 10 = 213333,33$ bps

Volume Trafik Total :

$V = V_A + V_B + V_C + V_D + V_E$

$= 8799,9 + 6600 + 6000 + 101666,66 + 213333,33$

$= 336399,89$ bps

b. $A = \frac{336399,89}{60 \times 10^6} = 0,0056$ Erlang