Experiment No.8

Code 1:

```
clc;clear;close;

p1=60e-6;

p2=0.004e-6;

p3=26e-6;

p4=27.5e-6;

EL=10*log10(p1/(p3+p4));

disp("excess loss in dB ",EL);

IL13=10*log(p1/p3);

disp("insertion loss between port 1 and port3 in dB",IL13);

IL14=10*log(p1/p4);

disp("insertion loss between port 1 and port3 in dB",IL14);

crosstalk=10*log10(p2/p1);

disp("crosstalk in dB",crosstalk);

SR=p3/(p3+p4)*100;

disp("split ratio in %",SR)
```

Output:

```
 "excess loss in dB "

  0.4979747

 "insertion loss between port 1 and port3 in dB"

  8.3624802

 "insertion loss between port 1 and port3 in dB"
```

```
 7.8015856
 "crosstalk in dB"
-41.760913
 "split ratio in %"
 48.598131
```

Code 2:

```
clc;clear;close;
p3=26e-6;
p4=27.5e-6;
EL=0.7;
p1=(p3+p4)*10^(EL/10);
disp("Power at port 1 in uW",p1*1e-6)
IL13=10*log(p1/p3);
disp("insertion loss between port 1 and port3 in dB",IL13);
IL14=10*log(p1/p4);
disp("insertion loss between port 1 and port3 in dB",IL14);
SR=p3/(p3+p4)*100;
disp("split ratio in %",SR)
crosstalk=45;
p2=p1*10^(crosstalk/10);
disp("Power at port 2 in uW",p2*1e6)
```

Output:

"Power at port 1 in uW"

6.286D-11

"insertion loss between port 1 and port3 in dB"

8.8276607

"insertion loss between port 1 and port3 in dB"

8.2667661

"split ratio in %"

48.598131

"Power at port 2 in uW"

1987713.5