**OCN Expt-2**

**Code :**

clc

clear all

close all

n1=input('Enter n1 : ');

n2=input('Enter n2 : ');

cd=input('Enter core diameter : ');

cr=cd/2;

cr=cr/(1000000);

w=input('Enter wavelength : ');

w=w/(1000000000);

NA=power((n1)^(2)-(n2)^(2),0.5);

acc=asin(NA);

acc=(acc)\*((180)/(3.14));

cri=asin(n2/n1);

cri=(cri)\*((180)/(3.14));

V=((2\*3.14)/w)\*(cr)\*(NA);

M=((V)^2)/(2);

disp('NA = ')

disp(NA)

disp('Acceptance angle = ');

disp(acc);

disp('Critical angle = ')

disp(cri)

disp('Normalized frequency = ');

disp(V)

disp('Number of modes = ')

disp(M);

**Output :**

Enter n1: 1.47

Enter n2: 1.46

Enter core diameter: 50

Enter wavelength: 1550

NA =

0.1712

Acceptance angle =

9.8610

Critical angle =

83.3553

Normalized frequency =

17.3381

Number of modes =

150.3050