BHARATI VIDYAPEETHS COLLEGE OF ENGINEERING FOR WOMEN, PUNE-43

DEPT. OF E &TC

Class :- BE (E&TC) **Date:- 08/02/08**

Subject:- OMC **unit test - I**

Q-1) what is LASER? Mention population Inversion condition? Compare LASER & LED? **08**

Q-2) with the help of neat diagram & explain the construction & working of PIN diode. **06**

Q-3.a] An optical fiber has core & cladding refractive indices 1.50 & 1.40 resp. Calculate N.A. Also calculate the maximum angle of entrance of light into air. **04**

Q-3.b] Explain in brief pulse broadening in graded index fiber. **04**

Q-4) Explain the following, **08**

i) Bending Losses

ii) Core-Cladding Losses

iii) Dispersion Mechanism

BHARATI VIDYAPEETHS COLLEGE OF ENGINEERING FOR WOMEN, PUNE-43

DEPT. OF E &TC

Class :- BE (E&TC) **Date:- 20/02/09**

Subject:- OMC **unit test - I**

Q-1 what is LASER? Mention population Inversion condition? Compare LASER & LED? **08**

Q-2 with the help of neat diagram & explain the construction & working of Avalanche Photodiode. **06**

Q-3.a] An optical fiber has core & cladding refractive indices 1.48 & 1.46 resp. Calculate N.A. Also calculate the maximum angle of entrance of light into air. **04**

Q-3.b] Explain in brief advantages & Disadvantages of optical fiber transmission link over metallic wire transmission link. **04**

Q-4 A double hetrojunction InGaAsP LED emitting at peak wavelength of 1310 nm has radiative & non-radiative recombination times of 30nsecs.resp.The drive current is 40mA. Determine total recombination life time, internal quantum efficiency & internal power level of source. **08**

BHARATI VIDYAPEETHS COLLEGE OF ENGINEERING FOR WOMEN, PUNE-43

DEPT. OF E &TC

Class: - BE (E&TC) **Date: - 20/04/08**

Subject: - OMC **unit test - II**

Q-1) Explain the operating modes of GUN diode **08**

Q-2) with the help of neat diagram & explain the construction & working of PIN diode. **06**

Q-3. Explain the tunneling process in tunnel diode. **04**

Q-4 Explain the Gunn Effect by two valley theory. **04**

Q-4) Explain the construction & working of varactor diode **08**

BHARATI VIDYAPEETHS COLLEGE OF ENGINEERING FOR WOMEN, PUNE-43

DEPT. OF E &TC

Class: - BE (E&TC) **Date: - 18/04/09**

Subject:- OMC **unit test - II**

Q-1) A reflex klystron operates under the following conditions **08**

Vo = 800 V

L = 1.5 mm

Fr = 5 GHz at n = 2 compute,

i) Repeller Voltage ii) Efficiency.

Q-2). With the help of neat diagram & explain the construction & working of two cavity klystron amplifier . **06**

Q-3. Explain the π mode of magnetron **04**

Q-4 what are the microwave attenuators **04**

Q-4) Explain the construction & working of helix TWT **08**

BHARATI VIDYAPEETHS COLLEGE OF ENGINEERING FOR WOMEN, PUNE-43

DEPT. OF E &TC

Class: - BE (E&TC) **Date: - 25/04/10**

Subject:- OMC **unit test - II**

Q-1) define the following, **08**

i) Guide Wavelength ii) Group Velocity iii) Phase Velocity iv) Wave Impedance.

Q-2) with the help of neat diagram & explain the construction & working of Magnetron. **06**

Q-3. State the properties of magic tee. **04**

Q-4 what are the microwave attenuators **04**

Q-4) Explain the construction & working of reflex klystron **08**

BHARATI VIDYAPEETHS COLLEGE OF ENGINEERING FOR WOMEN, PUNE-43

DEPT. OF E &TC

Class: - BE (E&TC) **Date:- 17/02/10**

Subject:- OMC **unit test - I**

Q-1 Explain in detail the structure of Edge Emitting LED? **08**

Q-2 Draw the structure of PiN photodiode & explain its operation in brief. Plot Responsivity curve as function of wavelength for PiN photodiode constructed of silicon. **06**

Q-3. A] An optical fiber has core & cladding refractive indices 1.48 & 1.46 resp. Calculate N.A. Also calculate the maximum angle of entrance of light into air. **04**

Q-3 B] Explain in brief advantages & Disadvantages of optical fiber transmission link over metallic wire transmission link. **04**

\Q-4 Determine the normalized frequency at 850nm for a step index fiber has core radius of 25μm, core refractive index of 1.48 & cladding refractive index of 1.46. how many modes propogate in this fiber at 1320nm & 1550nm. **08**