

PIC Course  
Assignment -3

1. The angle of an integrated optic Y-branch is designed to be small to avoid
  - a. Guided mode losses
  - b. Radiation mode losses
  - c. Substrate mode losses
  - d. Cladding mode
2. The operation of an RF spectrum analyser is based on
  - a. Electro-optic effect
  - b. Magneto-optic effect
  - c. Acousto-optic effect
  - d. Thermo-optic effect
3. In a  $4 \times 4$  Electro-optic switch is configured using five  $2 \times 2$  EO switches. A pass through state is defined as 1-1, 2-2, 3-3, 4-4.
  - a. Any input output combination is possible.
  - b. All input output combinations are not possible.
  - c. Pass through state is possible (1-1, 2-2, 3-3, 4-4)
  - d. Reversal state is possible (1-4, 2-3, 3-2, 4-1)
4. The refractive index change due to electro-optic effect varies
  - a. Directly with electrode voltage and inversely with electrode gap
  - b. Inversely with electrode voltage and directly with electrode gap
  - c. Directly with both electrode voltage and electrode gap
  - d. Inversely with both electrode voltage and electrode gap
5. A SAW IDT can create the following IO device
  - a. Tapered waveguide
  - b. Grating
  - c. Y-branch
  - d. Directional coupler
6. The special frequency components of a beam input to an integrated optic waveguide can be interpreted as rays with
  - a. Different angles
  - b. Wavelengths
  - c. Velocities
  - d. Phases
7. A ridge tapered optical waveguide has refractive index varying along
  - a. Width only
  - b. Depth only
  - c. Propagation direction
  - d. Width as well as depth
8. The angle of an IO Y-branch is designed to be small to
  - a. reduce radiation losses
  - b. reduce absorption losses
  - c. maintain single mode operation
  - d. avoid coupling between output ports

9. The following effect creates waveguide grating
  - a. non-linear effect
  - b. Electro-optic effect
  - c. Acousto-optic effect
  - d. Thermo optic effect
  
10. A fiber optic gyroscope used the following interferometer
  - a. Sagnac interferometer
  - b. Mach Zehnder interferometer
  - c. Michelson interferometer
  - d. Fizeau interferometer