

VITHALBHAI PATEL & RAJRATNA P.T. PATEL SCIENCE COLLEGE
VALLABH VIDHYA NAGAR

S.Y. B.Sc. SEM: IV

INTERNAL TEST

DATE: 11th March 2014

SUB: INSTRUMENTATION (VOC.)

TIME: 1:00 pm to 2:30 pm

SUB CODE: US04CINV02

TOTAL MARKS: 30

Q.1 Answer the following in short.(Attempt Three, each two marks) [06]

- (1) State Barkhausen criteria.
- (2) Give in detail just classification of oscillator.
- (3) Write difference between Led and laser.
- (4) Explain in short spontaneous emission and stimulated emission with figure.
- (5) Explain principle of fiber optics.
- (6) What are the basic requirements of LED?



Q.2 (A) Explain phase shift oscillator. [04]
(B) Explain Wein bridge oscillator. [04]

OR

Q.2 (A) Explain Astable multi vibrator in detail with block diagram of 555 timer ic. [08]

Q.3 (A) Explain ruby laser. [04]
(B) Explain laser cutting application. [04]

OR

Q.3 (A) Explain edge emitting LED. [04]
(B) Explain surface emitting LED. [04]

Q.4 (A) Explain pin diode. [05]
(B) Explain advantages of fiber optical cable. [03]

OR

Q.4 (A) Discuss fiber optics construction. [05]
(B) Give comparisons of fiber optical cables and metal cables. [03]

-: ALL THE BEST:-