Government Girls' Polytechnic, Bilaspur

Name of the Lab: **Electronics Lab**

Practical: **Analog Electronics Lab**

Class : **4th Semester (ET&T)**

Teachers Assessment: 10 End Semester Examination: 50

List of Experiments

1. Measurement of Different Characteristics of an OP-AMP loop configuration
   (a) Output resistance "Ro" (b) Differential Input Resistance "Ri".
2. Measurement of Differential Characteristics of an OP-AMP loop configuration:
   (a) Voltage Gain (b) Unity Gain Bandwidth.
3. Measurement of Differential Characteristics of an OP-AMP: (a) Input off-set voltage.
4. Offset nullification with: (a) External Biasing for Inverting OP-AMP (b) External Biasing for Non-Inverting OP-AMP.
5. Inverting Amplifier as: (a) AC Analysis (b) DC Analysis (c) Unity Gain.
6. Non-Inverting Amplifier as: (a) AC Analysis (b) DC Analysis (c) Unity Gain Buffer.
7. OP-AMP as: (a) Adder (b) Subtractor (c) Multiplier (d) Divider.
8. OP-AMP as: (a) Integrator (b) Differentiator (c) Inverter (d) Buffer.
9. OP-AMP as: (a) Active filter (b) Low pass filter (c) High pass filter (d) Band pass filter.
10. Wave- shaping of: (a) Astable Multivibrator using OP-AMP (b) Astable Multivibrator using Timer IC (c) Monostable multivibrator using timer IC.
11. Signal generator using OP-AMP / Timer IC like Triangular wave generation.
12. Schmitt Trigger using OP-AMP and Timer IC as : (a) Saw tooth wave generator (b) Ramp generator.
13. Preparation of adjustable timer using OP-AMP.
14. Oscillator using OP-AMP as: (a) Wein Bridge Oscillator (b) R.C. Phase Shift Oscillator.
15. Clamper and chopper operation as:(a) Positive and Negative clamper (b) Positive and Negative clipping.
16. Study of Sample and Hold circuit operation.
17. Precision Rectifier using an OP-AMP and voltage regulator.
18. Measurement of VCD's sensitivity, linearity & free running frequency.
19. Study of Phase locked loop as frequency multiplier.
20. Calculate the duty cycle of a PWM.
21. Study of A/D Converter.