

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– IV (New) EXAMINATION – WINTER 2019****Subject Code: 2140305****Date: 12/12/2019****Subject Name: Analog Circuits-II****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain RMS vs Peak to Peak noise. **03**
 (b) Write short note on noise generated by Zener Break Down. **04**
 (c) Classify Noise based on colors. Explain any two in detail. **07**
- Q.2** (a) Write short note on 1st order Low Pass Filter with neat sketch. **03**
 (b) Compare response of Butterworth, Tschebyscheff and Bessel filters. **04**
 (c) Design 2nd order Low Pass filter with cutoff frequency 1 KHz. Also draw the response and circuit. Gain 4. **07**
- OR**
- (c) Design Wide Band Pass filter with Pass Band frequencies 1 KHz to 10 KHz. Gain 6. Also draw the circuit. **07**
- Q.3** (a) Explain chopper stabilized amplifier **03**
 (b) Explain Fiber optic type isolation amplifier. **04**
 (c) Derive Gain equation of Instrumentation amplifier. Design Instrumentation amplifier with Gain 3. Draw neat sketch. **07**
- OR**
- Q.3** (a) Explain Reverse Battery Protection. **03**
 (b) Explain Pulsed Excitation amplifier. **04**
 (c) Explain Switching Power supply in detail. **07**
- Q.4** (a) Compare analog and digital communication. **03**
 (b) Write short note on Power relations in AM. **04**
 (c) Explain CRO with neat sketch. **07**
- OR**
- Q.4** (a) What is need of modulation? Explain in detail. **03**
 (b) What is Frequency Modulation? Give mathematical representation of FM. **04**
 (c) Draw and explain Frequency analyzer in detail. **07**
- Q.5** (a) Explain Capacitive cross talk. **03**
 (b) Enlist various types of pulse modulations. Explain any one in detail. **04**
 (c) Explain shielding and input guarding in detail. **07**
- OR**
- Q.5** (a) Enlist various Electrostatic Discharge Protection Techniques. Explain any one in detail. **03**
 (b) What is Amplitude Modulation? Give mathematical representation of AM. **04**
 (c) Write short note on Linear Power supply. **07**
