

Assignment # 01 Electronics II**BS (EE)- IV**

Total Points: 25**Deadline: 1500 Hours, Monday, September 29, 2014**

Instructions:

- The solved assignment should be submitted by due date to the class representative and no assignment will be accepted individually and after the specified deadline. Failure to submit the assignment by due date will lead to the assignment score of 0 points.
 - This assignment has to be done individually and marks will be awarded accordingly.
 - Copying & plagiarism is prohibited and will be dealt strictly. In case of copying, the assignment will be cancelled and awarded 0 marks. **Submit a hand written assignment.**
 - All the explanatory answers must be in your own words. Do not copy/ paste the exact text from the source. **Provide references where necessary.**
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01. Audio Mixer (2.5 x 4)

- (a) What is an audio mixer and what is its major use?
- (b) Discuss the function of potentiometers used in an audio mixer made using CE Emitter Bias configuration.
- (c) How the two input signals are balanced at the output?
- (d) What is the difference between the mixers made using BJT's and FET's?

02. Random Noise Generator (2.5 x 4)

- (a) What is random noise generator and its primary application?
- (b) Define white noise, shot noise and pink noise and draw their frequency spectrums.
- (c) Draw a circuit that generates both the white noise and the pink noise.
- (d) What is major component that enables the white noise to be transformed into pink noise?

03. Compare (summarize in tabular form) the small signal AC parameters of the following configurations and rate them as high medium and low. (5)

- (a) Voltage Divider Bias.
- (b) Emitter Follower.
- (c) Collector Feedback.
- (d) Common Base

The End