

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name: Linear Electronics

Subject Code: 4TE03LNE1

Branch: B.Tech (CE)

Semester: 3

Date:26/04/2016

Time: 2:30 To 5:30

Marks :70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1** **Define the following terms:** **(14)**
- a) Power Amplifier.
 - b) Thermal Runaway.
 - c) Stability Factor.
 - d) Cross Over Distortion.
 - e) Oscillator.
 - f) Q Point of transistor.
 - g) Bias Stabilization.
 - h) Input Offset Voltage.
 - i) Output Offset Voltage.
 - j) Barkhausen Criterion for Feedback Oscillator.
 - k) Positive Feedback.
 - l) CMRR.
 - m) Slew Rate.
 - n) Voltage Follower.

Attempt any four questions from Q-2 to Q-8

- Q-2** **Attempt all questions** **(14)**
- (a) Derive the expression of voltage gain and current gain of a Common Emitter Transistor Amplifier Circuit Using h Parameters.
 - (b) Explain Two-Port Devices and the Hybrid Model in detail.
- Q-3** **Attempt all questions** **(14)**
- (a) Write short note on Emitter Follower in detail.
 - (b) What is transistor biasing? Explain voltage divider biasing technique in detail.
- Q-4** **Attempt all questions** **(14)**
- (a) Explain with a neat diagram the working of a Class C power amplifier.
 - (b) Explain the operation of Class AB power amplifier with a neat circuit diagram.



