

Branch: B. Tech

Semester: III

Subject Name: Electronic devices and Circuits

Subject Code: BTEXC303

Max Marks: 60

Date:- 05/12/2018

Duration:- 3 Hrs.

**Instructions to the Students:**

1. Each Question Carries 12 Marks
2. Attempt any five questions of the following
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly

**Q.1 Attempt Any Two questions of the following**

- |   |    |
|---|----|
| a) Briefly Explain construction and working principle of JFET | 06 |
| b) Describe FET as an Amplifier and its Analysis(CS)          | 06 |
| c) Explain about FET as High Impedance Circuits               | 06 |

- |   |    |
|---|----|
| <b>Q.2</b> a) Briefly Explain the Characteristics of N-Channel E-MOSFET | 06 |
| b) Write short Notes on Non-Ideal Voltage current characteristics       | 06 |

- |  |    |
|--|----|
| <b>Q.3</b> a) Explain the Classification of amplifier in details | 06 |
| b) Discuss in details about various feedback topologies          | 06 |

- |   |    |
|---|----|
| <b>Q.4 Attempt Any Two questions of the following</b> |    |
| a) Explain about Barkhausen criterion for oscillator  | 06 |
| b) Draw and explain the RC Phase shift Oscillators    | 06 |
| c) Describe the Hartley and colpitts oscillators      | 06 |

- |  |    |
|--|----|
| <b>Q.5</b> a) Briefly Explain about the IC 555 Block Diagram | 06 |
| b) Write down the applications of IC 555 in Engineering      | 06 |

- |   |    |
|---|----|
| <b>Q.6 Attempt Any Two questions of the following</b>                                     |    |
| a) Explain about adjustable three terminal positive (LM 317) regulators with neat diagram | 06 |
| b) Briefly Explain SMPS with Neat diagram   | 06 |
| c) Write Down the Comparison of Linear power supply and SMPS                              | 06 |

\*\*\* End \*\*\*