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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (EE) (2018 Batch) (Sem.-3)

ANALOG ELECTRONICS

Subject Code : BTEE-302-18

M.Code : 76382

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**Write briefly :**

1. List the advantages and disadvantages of CC configuration of BJT.
2. Explain the need of a clamping circuit.
3. Comment upon the gain bandwidth product in an op-amp.
4. What do you mean by slew rate? Explain.
5. What do you mean by transconductance? Explain.
6. Write down the advantages of active filters.
7. What do you mean by current mirror? Explain.
8. Draw and explain (in brief) the circuit for an op-amp working as integrator.
9. What is the need of voltage regulator? Explain.
10. Why MOSFET is used for high frequency application? Explain.

SECTION-B

11. Draw and discuss CE transistor configuration. Also draw and explain its input and output characteristics.
12. Explain the term biasing. Why a transistor should be biased? Explain in detail the voltage feedback biasing circuit.
13. Discuss the MOSFET structure and VI characteristics in detail.
14. Draw the circuit of an operational amplifier acting as inverting and non- inverting amplifier. Also derive the expressions for their gain.
15. Explain the need, circuit diagram and working of direct coupled multi-stage amplifier.

SECTION-C

16. Draw the circuit diagram and explain in detail full wave rectifier and clipping circuits.
17. Explain :
 - i) MOSFET as an Amplifier
 - ii) Internal structure of an Op-amp
18. Discuss :
 - i) Phase shift oscillator
 - ii) Instrumentation Amplifier

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.