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Total No. of Questions : 09

B.Tech.(EIE) (2011 & Onwards) (Sem.-4)
ANALOG ELECTRONICS/APPLIED ELECTRONICS
Subject Code : EC-202
Paper ID : [A0306]

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

1) Write briefly :

- Why is it not possible to use the h-parameters at high frequencies?
- Write down the disadvantages of T model.
- What is the difference between a voltage amplifier and a power amplifier?
- What is the advantage of using the output transformer for a class A amplifier?
- What is neutralization?
- Write down the advantages of $-ve$ feedback.
- State the types of voltage regulators.
- What are the salient features of hybrid parameters?
- What is meant by rectifier efficiency?
- State the reason for fall in gain at high frequencies.

SECTION-B

- 2) Explain how feedback circuit can be used as an oscillator.
- 3) Prove that the base spreading resistance $r_{bb}' = h_{ie} - r_{b'e}$.
- 4) Explain cross-over distortion in Class B amplifiers.
- 5) How do alter the bandwidth of a tuned load amplifier which is a) double tuned and b) stagger tuned?
- 6) Explain why inspite of reduction in gain, negative feedback is invariably used in amplifiers.

SECTION-C

- 7) Explain Hartly oscillator and derive the equation for oscillation.
- 8) Draw the block diagram of a regulated dc power supply and explain the function of each block in it.
- 9) Design a two stage RC-coupled amplifier having overall gain 2000 and peak output voltage 2.5 V.