RAMAKRISHNA MISSION VIDYAMANDIRA
(Residential Autonomous College under University of Calcutta)
SECOND YEAR
B.A./B.SC. THIRD SEMESTER (July – December) 2014
Mid-Semester Examination, September 2014

Date : 16/09/2014
Time : 12 noon – 1 pm

ELECTRONICS (General)

Paper : III

Full Marks : 25

1. A class CE amplifier operates from $V_{CC} = 20V$, draws a no signal current of 5A and feeds a load of 40Ω through a step-up transformer of $n_2/n_1 = 3 \cdot 16$. Find—

   a) Whether the amplifier is properly matched for maximum power transfer

   b) maximum ac signal power output

   c) maximum dc power input

   d) Conversion efficiency at maximum signal input   [10]

Or,

Mention the advantages of negative feedback. With a negative feedback, an amplifier gives an output of 10V with an input of $0 \cdot 5V$. When the feedback is removed, it requires $0 \cdot 25V$ input for the same output. Calculate—

   a) gain without feedback

   b) feedback franction β [10]

2. Write short notes **any three** of the following :   [3×5]

   a) Power Amplifier and its characteristics

   b) Virtual Ground of OP-AMP

   c) Input offset Voltage & Offset Null of OP AMP

   d) Inverting mode gain of OP-AMP

   e) Feedback Amplifier and its gain.

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