BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION MO/2023)

CLASS: B.TECH   SEMESTER : III
BRANCH: ECE   SESSION : MO/2023

SUBJECT: EC253 ANALOG CIRCUITS

TIME: 02 Hours   FULL MARKS: 25

INSTRUCTIONS:
1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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			CO	BL
Q.1(a)	Sketch the output waveform for square wave using RC lowpass filter	[2]	1	Interpreting
Q.1(b)	Derive the expression for the transfer function of a high pass filter for sinusoidal input.	[3]	1	Inferring
Q.2	Obtain Z_o, Z_{in}, A_v and A_i using h-parameter model for fixed biased CE configuration.	[5]	3	Inferring
Q.3	Explain class A power amplifier and find the efficiency using transformer coupled class A power amplifier.	[5]	2	Applying
Q.4(a)	Draw the hybrid Pi model of CE amplifier.	[2]	3	Interpreting
Q.4(b)	Derive the expression for $r_{bb'}$	[3]	3	Inferring
Q.5(a)	Explain Single tuned amplifier	[5]	2	Generalizing

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