JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-IV Semester (ECE)

COURSE CODE (CREDITS): 25B11EC412 (4) MAX. MARKS: 15

COURSE NAME: Analog Electronics

COURSE INSTRUCTORS: Lt. Pragya Gupta MAX. TIME: 1 Hour

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems. ***A calculator is allowed.***

Q.No	Question	CO	Marks
Q1	For the common-base configuration, draw the AC equivalent, r_e-model, and find the expression of I_E, Current gain, and Voltage gain.	CO1	5
Q2	Given the packaged (no-entry-possible) amplifier. Determine (a). Determine the gain $A_{vL}$and and compare it to the no-load value with $R_L = 1.2$ kΩ.***(1 mark)*** (b). Determine the A_{vs} with $R_L = 1.2$ kΩ ***(2 marks)*** (c). Determine the current gain A_i with $R_L = 1.2$ kΩ ***(1 mark)***	CO1	4

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Q3.	(a) Draw the circuit diagram of a Darlington pair used in emitter follower configuration and find the expression for DC bias voltages and currents. Also mention two applications of the Darlington transistor. ***(4 marks)*** (b) What is the difference between Cascade and Cascode connections of BJT? Explain each with proper circuit diagram. ***(2 marks)***	CO1	6

MUT TEST EXAMINATION FEB 2026