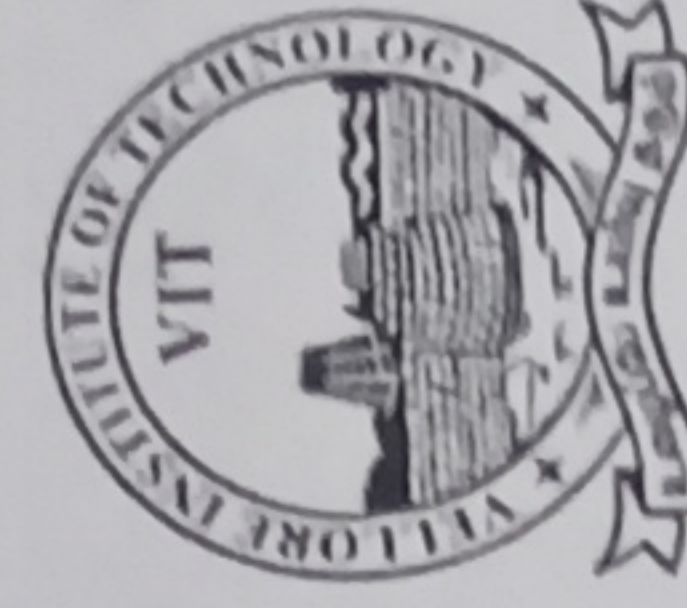


REG.NO.:


VIT[®]

 Vellore Institute of Technology
 (Deemed to be University under section 3 of UGC Act, 1956)

SLOT: A1+TA1

SCHOOL OF ELECTRICAL ENGINEERING
CONTINUOUS ASSESSMENT TEST - II
WINTER SEMESTER 2025-2026

Programme Name & Branch : B.Tech (EEE & EIE)

Course Code and Course Name : BEEE208L – Analog Electronics

Faculty Name(s) : Dr.M.N. Venkataraman, Dr.R. Gnanavignesh, Dr.V. Sankardoss

Class Number(s) : VL2025260101048, 2342, 2257

Date of Examination : 15/03/2026

 Exam Duration : 90 minutes Maximum Marks: 50
General instruction(s):

- Answer All Questions.
- Rough work should not be done on the question paper. It will be treated as malpractice.
- M – Max mark; CO – Course Outcome; BL – Bloom's Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)

Course Outcomes Statements:

CO. 3. Design the frequency of oscillation for different oscillators.

CO. 5. Design ADCs, DACs and timer circuits for engineering applications.

Q. No	Question	M	CO	BL
1.	Draw and explain the complete circuit of Colpitt's oscillator and obtain the frequency of oscillation.	10	3	3
2.	Design a 4-bit weighted resistor type DAC whose feedback resistor value is 2.5kΩ. Draw the complete circuit diagram with the exact components.	10	5	4
3.	Walk through the conversion steps of a 4-bit successive approximation ADC. The reference voltage of ADC is -16 V and the input applied is 13.2 V. Show all the corresponding signals beginning from the 'START' to 'EOC'. Draw the complete circuit.	10	5	4
4.	Design an astable multivibrator with $T_{ON}=0.3\text{ms}$ and 30% duty cycle using 555-Timer. Use 1μF capacitor. Draw the circuit and explain your design.	10	5	3
5.	Design a voltage regulator that can deliver a constant current of 0.8A using IC7805.	10	5	2
