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MANIPAL INSTITUTE OF TECHNOLOGY MANIPAL (A constituent unit of MAHE, Manipal)

DEPARTMENT OF MECHATRONICS Ist SEMESTER M.TECH. MECHATRONICS (IAR) END SEMESTER EXAMINATIONS, NOV-DEC 2023 SUBJECT: ANALOG AND DIGITAL ELECTRONICS [MTE 5401]] (Date:30-11-2023)

Time: 3 Hours

MAX. MARKS: 50

- Instructions for the Candidates:
 - Answer ALL questions.
 - ♦ Data did not provide any, may be suitably assumed.

Q. No		Μ	CO	РО	LO	BL
Q1 (a)	Analyse and Explain any two applications of a diode? Give suitable examples	2	3	4	2	4
1(b)	Analyse the circuit given in FIG. 1B below. Calculate and draw the output voltage v _o for the given input voltage v _i . Consider case (i) Ideal Diode (ii) Silicon Diode $ \begin{array}{c} & & & & \\ & & & & \\ & & & & \\ & & & & $	4	3	4	2	5
1(c)	Determine <i>v o</i> for the network of FIG. 1C for the input indicated. Draw the output waveform with respect to the input $\int_{10}^{10} \frac{f = 1000 \text{ Hz}}{t_1 + t_2 + t_3 + t_4 + t_4} = \int_{10}^{10} \frac{c}{t_1 + t_2 + t_3 + t_4} = \int_{10}^{10}$	4	3	4	2	5







