



Daffodil International University

Faculty of Science & Information Technology
Department of Computer Science and Engineering

Final Examination, Summer - 2026

Course Code: CSE215 Course Title: Electronic Devices and Circuits

Level: 2 Term: 2 Batch: 68

Exam Duration: 2 Hours

Marks: 40

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	a)	Draw the block diagram of multistage amplifier.	[2]	CO1
	b)	Define feedback and state its significance in electronic amplifiers.	[2]	
	c)	Define faithful amplification and state the conditions required to achieve it.	[2]	
	d)	State the role of Emitter bypass capacitor (C_E) and Coupling capacitor (C_C).	[2]	
	e)	List the Ideal characteristics of OP-Amp.	[2]	
2.	a)	Describe the working principle of E-MOSFET with necessary diagram.	[5]	CO2
	b)	Discuss tank circuit with necessary circuit diagram.	[5]	
3.	a)	A 1 pF capacitor is available. Calculate the inductor values in a Hartley oscillator so that $f = 1$ MHz and $m_v = 0.2$.	[5]	CO3
	b)	In a transistor circuit shown in Fig. 01, determine the operating point. Assume silicon transistor is used.	[5]	

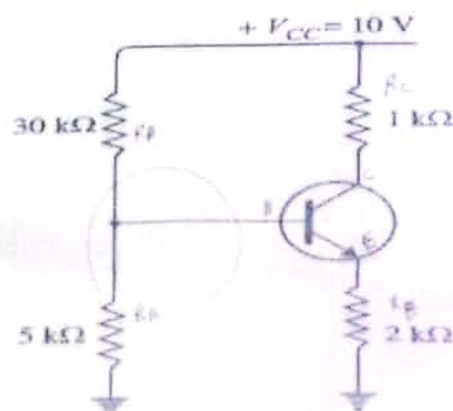


Fig. 01

c)	An amplifier has an open-loop gain $A_v = 100,000$. Negative feedback of 10 db is applied. Solve for: (i) voltage gain with feedback (ii) value of feedback fraction m_v .	[5]	
d)	Determine the value of I_c for voltage divider method if $V_{CC} = 9V$, $R_E = 1k\Omega$, $R_1 = 39 k\Omega$, $R_2 = 10 k\Omega$, $R_C = 2.7 k\Omega$, $V_{BE} = 0.15 V$ and $\beta = 90$.	[5]	