

ANSWER KEY

SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2025

PART-IV/H/III

SUBJECT: ELECTRONIC SYSTEMS

CODE NO: SY 453

VERSION: P

60 SCORES

2 HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
1		$\frac{1}{2}\pi RC$	1	1
2		Unity	1	1
3		IC 7447	1	1
4		Hexagon	1	1
5		Circuit of positive clipper Explanation	1 1	2
6		Frequency response curve of ideal BPF with $f_L = 3\text{MHz}$ and $f_U = 30\text{MHz}$	2	2
7		Any two comparison between +ve feedback and -ve feedback	1+1	2
8		Crystal growth Epitaxial growth Oxidation Diffusion	$4 \times \frac{1}{2}$ $= 2$	2
9		SSI, MSI, LSI, VLSI, ULSI	2	2
10		Pim diagram of IC 741	2	2
11		Any two advantages of switched power supply.	2×1	2

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12		Block diagram of JK master slave flip flop	2	2
13		Any two comparison between TTL and CMOS logic families	2x1	2
14.		Block diagram of 3-bit SISO shift register	2	2
15		Structure of optical fiber	2	2
16		8 bit processor - Intel 8085, Motorola 6800 etc. 16 bit processor - Intel 8086, 80286, Motorola 68000 etc.	2x1	2
17	a. +ve clamper with -ve bias b. Circuit diagram of +ve clamper with -ve bias of -3V	1 2	3	
18.	a. Value of L and C in the feedback network b. Circuit of Colpitts Oscillator	1 2	3	
19.	Circuit of summing amplifier using op-amp $V_o = -\frac{R_f}{R} (V_1 + V_2 + V_3)$	2 1	3	
20	a. Inverter b. Block diagram of inverter	1 2	3	
21	Logic circuit of 4:1 multiplexer Truth table	2 1	3	

2.

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
22		Block diagram public address system Explanation	2 1	3
23	a b	Amplitude modulation Block diagram of AM radio transmitter	1 2	3
24		Block diagram of RADAR and explanation.	2+1	3
25	a b	LED or LASER Block diagram of optical fiber communication system	1 2	3
26	a b	Imaging / diagnostic Any two comparison between CT scanner and MRI scanner	1 2	3
27	a b	Triangular Circuit diagram of Integrator and its design rule.	1 3	4
28	a b	1 stable state, 1 quasi stable state Circuit diagram of AMU using IC 555	1 3	4
29	a b	Circuit of clocked SR flip flop and its truth table Invalid condition / forbidden condition using JK flip flop	2+1 $\left. \begin{matrix} 1/2 \\ 1/2 \end{matrix} \right\} 1$	4
30	a b	Microphone Cross sectional diagram of microphone	1 3	4
31	a b	Code Division Multiple Access Short notes on Wifi and Bluetooth	1 1 1/2 1 1/2	4