ANSWER KEY

FIRST YEAR HIGHER SECONDARY EXAMINATION May 2023

PART-~~I/II~~/III

SUBJECT: ELECTRONIC SYSTEMS

CODE NO: EY~~S~~453 VERSION: C

60 SCORES 2 HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
1		2Ω	1	1
2		100μF	1	1
3		0.7V	1	1
4		CE	1	1
5		0	1	1
6		0	1	1
7		Any two applications	(1x2)	2
8		12kΩ ±10%. 15Ω ±5%.	1 1	2
9		Energy band diagram of aluminum Energy band diagram of silicon	1 1	2
10		Any two comparison	2	2
11		V-I characteristics of Si diode Mark knee voltage & break down voltage	1 1	2
12		Need for rectifier circuit	2	2
13		Symbol and structure of PNP transistor	1x2	2
14		figure of CE configuration Mark V_{in}, V_{out}, I_{in}, I_{out}	1 1/4x4	2

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
15	a	Voltage divider biasing circuit	1	2
	b	Circuit diagram	1	
16		Symbol and application of LDR	1×2	2
17		De Morgan's theorems	1×2	2
18		Conversion of galvanometer into voltmeter with figure	2	2
19		Block diagram of TDM	2	2
20	a	Definition of Ohm's law	1	3
	b.	$R_{tot} = 10\Omega$	1	
		$I = 2A$	1	
21	a	Mutual induction	1	3
	b.	$V_s = 23V$	1	
		$f_{sec} = 50Hz$	1	
22	a.	Avalanche breakdown & Zener breakdown	½×2=1	3
	b	Any two comparison	2	
23		Comparison of CB, CC & CE Any three points	1×3	3
24	a.	Structure of N channel JFET	1	3
	b	Symbol of P channel MOSFET &	1	
		Any one application of MOSFET	1	
25	a	CE	1	3
	b	Circuit diagram of single stage RC coupled amplifier	2	

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
26	a.	Circuit diagram of astable multivibrator	2	3
	b.	Output waveform	1	
27	a	NAND & NOR gates	½ x 2 = 1	3
	b.	Realisation of any two basic gates	1 x 2 = 2	
28		Need for modulation	3	3
29	a)	Definition of KCL	1	4.
	b)	$I_3 = 2A$	3	
30	a)	Centre tapped rectifier	1	4
30	b)	Circuit diagram of centre tapped rectifier	3	
31	a)	Conditions / Requirements of a biasing circuit	3	4
	b)	Function of R_E	1	
32		K map Entry	1	4
		Grouping	2	
		Simplification $Y = \bar{A}D + A\bar{B}$	1	
33	a)	Block diagram of CRO	3	4.
	b)	any two applications	1	