ANSWER KEY

FIRST YEAR HIGHER SECONDARY EXAMINATION MARCH 20.25

PART-I/II/III

SUBJECT: ELECTRONIC SYSTEMS

CODE NO: FY 353 VERSION: B

60 SCORES 2 HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
1		3 μF	1	1
2		0.3V	1	1
3		SCR	1	1
4		NOR	1	1
5		TV, Radio, mobile phone etc.	2×1	2
6	a b	Green, Blue, Red, Gold Brown, Black, Orange, Silver.	2×1	2
7.		Any two factors affecting the inductance of inductor	2×1	2
8		Temperature increases — Carriers increases — resistance decreases	2	2
9.	a. b.	Process of adding impurity Extrinsic semiconductor	1 1	2
10		Circuit of AMV using transistor	2	2
11.		Any two requirements of biasing circuit.	2×1	2
12		DC load line Mark the operating point at cut off	1 1	2
13		Logic circuit of Boolean equation $Y = \bar{A}B + A\bar{B}$	2	2

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
14		Definition of AM	2	2
15		Connect resistor in series with galvanometer	2	2
16		Any two comparison with TDM and FDM.	2×1	2
17	a b	State KCL 4.5A	1 2	3
18	a b	Step down transformer $V_S = 60V$, $I_S = 8A$	1 2×1½	3
19		Explanation of zener breakdown and avalanche breakdown	3	3
20	a b	7812 Block diagram of power supply	1 2	3
21	a b	symbol of NPN transistor connect battery to forward bias Emitter base junction and reverse bias collector base junction. Also mark I_B, I_C and I_E	1 1+1	3
22		output characteristics of CE configuration Mark cut off region, Saturation region and active region	1½ 1½	3
23	a b	Voltage divider biasing circuit of voltage divider biasing	1 2	3
24	a b	20V Circuit of RC coupled amplifier	1 2	
25		Symbol of LED, SCR and Thermistor	3	3
26	a b	Logic circuit of AND gate using NOR gate only Logic circuit of OR gate using NOR gate only.	1½ 1½	3

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
27	a	Center tapped rectifier	1	
	b	Circuit diagram	2	4
	c	Input and Output waveforms	1	
28	a	Ohm's law	1	
	b	i) 30KΩ	1	4
		ii) 1mA	1	
		iii) 30mW	1	
29	a	Structure of N-channel JFET	1	
	b	Any 3 comparison between FET and BJT	3	4
30		$Y = \bar{A} + BD$	4	4
31	a	The pattern appears on a CRO when two sinusoidal signals are applied to its horizontal and vertical deflection plates.	1	4.
	b	Block diagram of CRO	3	