APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Scheme for Valuation/Answer Key
Scheme of evaluation (marks in brackets) and answers of problems/key
FIRST SEMESTER B.TECH DEGREE EXAMINATION(S),MAY 2019
Course Code: BE101-04

Course Name: INTRODUCTION TO ELECTRONICS ENGINEERING

Max. Marks: 100   Duration: 3 Hours

PART A
Answer all questions, each carries5 marks.   Marks

1	Colour coding for resistors -2 mark.	(5)
	Colour code for a 33KΩ - 2-mark 2% tolerance resistor- 1 mark.	
2	Diode equation – 1 mark	
	Reverse saturation current for that diode- 2 marks.	(5)
	Forward bias voltage required to produce a diode current of 20 mA- 2 marks.	
3	Q-point - 2 marks.	
	Factors affecting the stability of Q- point- 3 marks.	(5)
4	Any four differences – 5 marks.	(5)
5	Circuit-2 marks.	(5)
	Explanation with wave form -3 Marks	
6	Circuit diagram zener diode regulator.- 2 marks.	
	Explanation- 3 marks.	(5)
7	Block diagram -3 marks.	
	Explanation- 2 marks.	(5)
8	Accuracy-2 marks.	
	Precision- 1.5 marks.	
	Sensitivity -1.5 marks.	
		(5)

PART B

Answer six questions, one full question from each module and carries10marks.

Module 1

9   a)   (i)carbon film resistor –diagram- 3 marks, Explanation-2 marks.

                (ii)wire wound resistor- diagram- 3 marks, Explanation-2 marks.   (10)

OR

10   a)   Working principle and explanation--4 marks

           Diagram- 3 marks   (7)

     b)   Working principle- 1.5 marks

            Diagram-   1.5 marks   (3)

Module 1I

11   V-I characteristics at room temperature. Graph- 3 marks, explanation-3 marks.

       V-I characteristics at a higher temperature and explain the effect of temperature on the graph.(2+2 marks)   (10)

OR

12   a)   LED – diagram 2 marks.

            Explanation- 2 marks.   (6)

            Various types of LEDs(any two).-2-Marks

     b)   Phpto diode - Diagram 2 marks. Explanation- 2 marks.   (4)

Module 1II

13   a)   Circuit and explanation-3 Marks

          Input characteristics-2-Marks. Output characteristics- 2-Marks

          Active, cut-off and saturation regions marking on graph-(1 mark each) 3-Marks   (7)

OR

14   Circuit diagram –3 marks, Explanation- 2 marks

       Frequency response diagram –2 marks Explanation- 3 mark.   (10)

Module 1V

15	a)	Structure -3 marks, operation - 3 marks	(6)
	b)	Figure-(1 mark each for drain and transfer chara)-2 marks	(4)
		Explanation(1-mark each) -2 marks	

<div align="center">**OR**</div>

16	a)	Working principle of SCR with diagram - 4-Marks.	(8)
		Characteristics of SCR.- Graph(2-marks each)- 4 marks	
	b)	Explain holding current and latching currents in SCR.	(2)

<div align="center">**Module V**</div>

17	a)	Circuit diagram-1 mark , working-2 marks, wave form-1 mark	(4)
	b)	Derivation RMS value, DC value, ripple factor –(2 marks each)-6marks	(6)

<div align="center">**OR**</div>

18		Block diagram-4 marks, working-4 marks, applications-2 marks	(10)

<div align="center">**Module VI**</div>

19	a)	Diagram-5 marks, Explanation -5 marks	(10)

<div align="center">**OR**</div>

20	a)	Block diagram of a digital storage oscilloscope -4 marks	(8)
		Explanation-4 marks	
	b)	Any 2 advantages(1 mark each)-2 marks	(2)

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