APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Scheme for Valuation/Answer Key
Scheme of evaluation (marks in brackets) and answers of problems/key
EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019
Course Code: EC402
Course Name: NANOELECTRONICS

Max. Marks: 100   Duration: 3 Hours

PART A
Answer any two full questions, each carries 15 marks.
Marks

1	a)	Any four characteristic lengths – 2.5*4marks	(10)
	b)	Figure+Description+Expression – (1+2+2)	(5)
2	a)	Derivation+Figures(8+2)	(10)
	b)	Explanation of each(2.5*2marks	(5)
3	a)	Explanation with chemistry involved + supporting figures (7+2)	(9)
	b)	Explanation+Figure+RHEED significance(2+2+2)	(6)

PART B
Answer any two full questions, each carries 15 marks.

4	a)	Any five interactions with figures involved(5*2 marks)	(10)
	b)	MQW + Each type(2+3)	(5)
5	a)	Kronig Penney Derivation + Figure +zone folding(6+2+2)	(10)
	b)	Concept+Band Diagram(3+2)	(5)
6	a)	Xray production in a diffractometer +Block level diagram + explanation+ Bragg equation for analysis(2+4+2+2)	(10)
	b)	Explanation+Figure(2.5+2.5)	(5)

PART C
Answer any two full questions, each carries 20 marks.

7	a)	Each – 2.5*4marks	(10)
	b)	Principle+types(3+3)	(6)
	c)	Advantages(4*1)	(4)
8	a)	Explanation of each points in the characteristic + band diagrams+ characteristics(4+2+2)	(8)
	b)	Description + Experimental set up+ Derivation(2+2+4)	(8)
	c)	Concept+ Equation(3+1)	(4)

9 a) Concept+Conditions+Figures(5+4+1) (10)

   b) Stucture+Working(2+3) (5)

   c) Principles(5) (5)

****