Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SEVENTH SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: MR403
Course Name: Nanotechnology

Max. Marks: 100   Duration: 3 Hours

PART A
Answer all questions, each carries 5 marks.   Marks

1		Analyze photolithography	(5)
2		Elucidate the technique used in transmission electron microscopy.	(5)
3	(a)	Define nano sensors	(4)
	(b)	List out the applications of Nano Sensors	(1)
4		What are the advantages and disadvantages in mechanical synthesis of nanopowders?	(5)
5		Write a short note about nano composites.	(5)
6		Examine Soft lithography	(5)
7		Define MEMS & NEMS.	(5)
8	(a)	Quantum dots have some special properties; list the properties one by one.	(2)
	(b)	Briefly explain any two properties.	(3)

PART B
Answer any three full questions, each carries 10 marks.

9		Discuss about the classification of nanomaterial based on their dimensions.	(10)
10		Discuss briefly about chemical vapour deposition (CVD).	(10)
11		Discuss in detail about the synthesis of nanoparticles.	(10)
12		What is AFM? Explain with example	(10)
13		Make a short note on	
	a)	Nano composites	(5)
	b)	Nano fluids	(5)

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

14	a)	Examine Nano electronics with examples.	(6)
	b)	List out the applications of nanotechnology used in the biomedical area.	(3)

    c)   Recognize the functional process of the targeted drug delivery system   (6)

15 a)   List the different types of Safety issues in the nanomaterials   (6)

    b)   Rewrite Photo resists method process, uses and applications   (9)

16 a)   Define micro and nano fabrication techniques in the nonmaterial production   (5)

    b)   Examine Soft lithography   (6)

    c)   List the Uses and its applications   (4)

17 a)   What is Dendrimers?   (5)

    b)   Outline the properties and applications of Dendrimers   (5)

    c)   List out the applications of Nano Sensors   (5)

****