Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: MR365

Course Name: COMPOSITE MATERIALS

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks Marks

1		What are particulate composites?	(5)
2		What are preformed molding compounds?	(5)
3		Write about shear testing of composite materials.	(5)
4		Explain the x-radiography technique for examining composite material.	(5)
5		Write the standard lamination codes for symmetric laminate and quasi-isotropic laminate using suitable examples.	(5)
6		What is a unidirectional laminate?	(5)
7		List out the features of carbon-carbon composite that enables it for high temperature applications.	(5)
8		Write short notes on the liquid impregnation and chemical vapor deposition method for the production of carbon-carbon composites.	(5)

PART B

Answer any three questions, each carries 10 marks

9		Write about the production of any two polymer matrix material.	(10)
10	a)	Name the types of carbon fibres.	(2)
	b)	Explain the production process of any two types of carbon fiber.	(8)
11	a)	What are the different fabrication processes for thermosetting composites?	(2)
	b)	Explain any two fabrication processes with suitable figures.	(8)
12	a)	Explain any test conducted to determine the Poisson ratio of a composite material.	(4)
	b)	What is double cantilever beam test? What is its importance?	(6)
13		Write about ultrasonic testing of composite material with suitable figures.	(10)

PART C

Answer any two questions, each carries 15 marks

14	a)	What is a cross-ply laminate?	(5)
	b)	Write about its construction and properties.	(5)
	c)	How is a cross ply laminate different from angle ply laminate?	(5)
15	a)	Write about the factors influencing strength and stiffness of unidirectional laminate.	(10)
	b)	Write about curing stresses in composites.	(5)
16	a)	Name some of the composite materials used in aviation industry. Give reasons.	(10)
	b)	What are the applications of Bucky paper?	(5)
17	a)	Write short notes on the liquid impregnation and chemical vapour deposition method for the production of carbon-carbon composites. Differentiate between the two.	(5)
	b)	List the advantages and disadvantages of carbon-carbon composites.	(10)

****