

141

JAYA GROUP INSTITUTIONS-THIRUNINRAVUR
8TH SEMESTER – B.E / B.Tech
INTERNAL ASSESSMENT-I (MODEL EXAMINATION-I)

Sub.Name: Composite Material and Structures
Sub.Code: AE 2451
Duration: 180 Minutes

Date: 11/2/2015
Branch: AERONAUTICAL ENGG
Max.Marks: 100

PART-A

1. What is meant by composites?
2. What are the TYPES OF GLASS FIBER?
3. What are the POLYMERIC MATRIX?
4. What is application of ceramic matrix?
5. What are carbon carbon composites?
6. What is elasticity approach?
7. What is major poisson's ratio?
8. Write the general characteristics of composite materials.
9. What is meant by "stiffness".
10. What are the assumptions made in micro mechanics?

PART-A

11a.) Explain classification of composites

Or

11.b) derive generalized hooke's law

12.a) derive expression for monoclinic, anisotropic, and orthotropic materials

Or

12.b) explain fiber matrix composites in details

13.a) explain application of composites in various fields

Or

13.B) a glass epoxy lamina consists of 70% fiber volume fraction, specific gravity for glass is 2.5 while epoxy is 1.2. calculate i) density of lamina ii) mass fraction of glass and epoxy iii) volume fraction.

14a.) Derive expression for E_1 & E_2

Or

14.b) explain micro and macro mechanism.

15.a) derive expression for major poisson ratio and inplane shear modulus

Or

15.b) explain tensile fracture with graph