Total No. of Questions – [2] Total No. of Printed Pages: [1]

G.R. No.	

[P118-154(T2)]

OCTOBER 2018 / IN - SEM (T2)

F. Y. M. TECH. (DESIGN ENGINEERING) (SEMESTER -I)

COURSE NAME: MECHANICS OF COMPOSITE MATERIALS

COURSE CODE: MEPA11184B

(PATTERN 2018)

Time: [30 Minutes] [Max. Marks: 10]

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data where ever required**

Q.1) State Tsai-Wu failure theory for the case of an orthotropic lamina under plane stress condition. Explain in detail how to find out coefficients. Explain the experimental procedure to determine component H_{12} **[10 marks]**

OR

Q.2) Explain Classical Lamination Theory **(CLT)** in detail. Obtain expression for midplane strain, midplane curvatures and stress-strain equation. Derive the summation expression for extensional, bending extension coupling and bending stiffness for orthotropic lamina. **[10 marks]**