

# School of Aeronautics (Neemrana)

Question Paper For Back / Re-back Internal Assessment Examination (Theory) - Old Scheme i.e 2012 Syllabus

## Instructions For Students / Faculty

### Back / Re-back Internal Examination (Total 60 Marks, 2 Hrs, Syllabus From Beginning of The Session)

Total number of questions to be given are 10, each carrying 10 marks and it is compulsory to attend 2 questions from Part A and 4 questions from Part B. There is a choice of two questions out of four in part A and 4 questions out of 6 in Part B. Part A will be theoretical or derivation type (**Not More Than 70 Words For Question**). Part B will be fully numerically oriented questions (**Not More Than 70 Words For Question**), except for the list of subjects given below. No objective type or fill in the blanks shall be given, but subpart of question can be given for both Part A & B.

\* **LIST OF ELABORATIVE THEORY QUESTION SUBJECTS:** Aircraft Materials, Aircraft System, Aircraft Rules & Regulation-I, Mechanics of Composite Materials, Aircraft Design, Aircraft Rules & Regulation-II, Avionics-I, Helicopter Theory, Maintenance of Airframe and System Design, Avionics-II, Airlines and Airport Management, Maintenance of Power Plant & Systems

**FACULTY MEMBERS, PLEASE ENSURE EXCEPT ABOVE LISTED SUBJECTS, NO THEORETICAL ELABORATIVE QUESTION SHOULD BE GIVEN IN PART 'B' OF QUESTION PAPER**

**STUDENT IS ALLOWED TO ENTER LATE NOT MORE THAN 15 MIN AFTER STARTING OF EXAM, AND MAY LEAVE THE EXAM HALL ON EXPIRY OF ATLEAST OF 1 Hr FROM THE STARTING TIME OF EXAMINATION**

## Question Paper & Student Details

Name of Faculty*	<input type="text" value="SUKUMAR DHANAPALAN"/>	Date of Submission of QP	<input type="text" value="28/11/2020"/>
Subject*	<input type="text" value="6AN2- Mechanics of Composite Materials (Old)"/>	Date of Examination*	<input type="text" value="05/12/2020"/>
Email Id of Faculty:*	<input type="text" value="sukumar@soaneemrana.org"/>	Course*	<input type="text" value="B.Tech (Aeronautical Engineering)"/>
Phone Number of Faculty*	<input type="text" value="790 425 6314"/>	Semester*	<input type="text" value="Semester : 6"/>

Student Name	<input type="text"/>	Student Reg No.	<input type="text"/>
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## Part A

Question : 1\*

What is the behavior of unidirectional composite as per fraction relation? Derive each equation?

Lesson Plan*	<input type="text" value="3"/>	Topic*	<input type="text" value="Composite Materials"/>	Source*	<input type="text" value="Mechanics of Compositi"/>
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Question : 2\*

Derive any 3 cases of Failure theories in orthotropic lamina?

Lesson Plan\*

9

Topic\*

Composite Materials

Source\*

Mechanics of Compositi

Question : 3\*

Discuss and derive all modulus of semi-empirical approach in micro-mechanics? Also discuss why it is preferred as compared to strength of material approach?

Lesson Plan\*

14

Topic\*

Composite Materials

Source\*

Mechanics of Compositi

Question : 4\*

Discuss the longitudinal modulus for elastic approach?

Lesson Plan\*

26

Topic\*

Composite Materials

Source\*

Mechanics of Compositi

## Part B

Question : 1\*

Explain orthotropic lamina and orthotropic material?

Lesson Plan\*

8

Topic\*

Composite Materials

Source\*

Mechanics of Compositi

Question : 2\*

Derive the relationship between [Q] and [C]?

Lesson Plan\*

15

Topic\*

Composite Materials

Source\*

Mechanics of Compositi

Question : 3\*

Explain resin transfer techniques?

Lesson Plan\*

21

Topic\*

Composite Materials

Source\*

Mechanics of Compositi

Question : 4\*

What is bulk moulding compound?

Lesson Plan\*

29

Topic\*

Composite Materials

Source\*

Mechanics of Compositi

Question : 5

How injection moulding technique is different from resin-transfer technique in composite manufacturing?

Lesson Plan

33

Topic

Composite Materials

Source

Mechanics of Compositi

Question : 6

Application of composite material in Airbus A380? Explain with diagram?

Lesson Plan

38

Topic

Composite Materials

Source

Mechanics of Compositi

**Upload Scanned Document In Case of Numerical or Diagram for any of the above question**

Mention question number with relevant fig / numerical / equations.  
Max 150 KB

Choose files or drag here

I have scrutinized the question paper. There is no spelling mistake or any type of irrelevant question.



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