CoursePack User Manual
Enhancing Environmental Friendly Education

Indian Institute of Technology, Madras
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1 Introduction

Course pack is a part of quality enhancement and education which is an open learning system provided exclusively by IIT-Madras. It has many student friendly features which creates learning environment more interesting and joyous. It is a complete package of

- Comprehensive study materials: Inclusive of Text, Images, Video Snippets, PowerPoint slides and PDF documents.
- Evaluating components: Quiz and Assignments
- Interactive components: Discussion forums. Course pack is a part of quality enhancement and education which is an open learning system provided exclusively by IIT-Madras. It has many student friendly features which creates interactive learning environment and joyous learning.

2 Steps to access Coursepack from QEEE Interface

Login into the QEEE web interface with the user credentials shared by the Institute admin

- The enrolled courses gets displayed
To view Coursepack for a particular course, click on Coursepack link given below the course. A new tab of Coursepack is opened.

3 Course Pack Navigation:

3.1 Book List
Displays the available books for the course.
### 3.2 Quiz List
Displays the available quizzes for the course.

<table>
<thead>
<tr>
<th>#</th>
<th>Quiz Name</th>
<th>Course</th>
<th>Open Time</th>
<th>Close Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quiz I</td>
<td>Earth Pressures on Retaining Structures</td>
<td>07 Sep 2015 10:04:19 AM</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Quiz II</td>
<td>Earth Pressures on Retaining Structures</td>
<td>07 Sep 2015 12:16:36 PM</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Quiz III</td>
<td>Earth Pressures on Retaining Structures</td>
<td>07 Sep 2015 01:23:12 PM</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Quiz IV</td>
<td>Earth Pressures on Retaining Structures</td>
<td>07 Sep 2015 02:57:50 PM</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Quiz V</td>
<td>Earth Pressures on Retaining Structures</td>
<td>07 Sep 2015 03:09:38 PM</td>
<td>-</td>
</tr>
</tbody>
</table>

### 3.3 Forum List
Displays the available Forums in the course

<table>
<thead>
<tr>
<th>#</th>
<th>Forum Name</th>
<th>Discussion Count</th>
<th>Post Count</th>
<th>Created Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Forum For Review Of Maxwells Equation</td>
<td>1</td>
<td>1</td>
<td>02 Sep 2015</td>
</tr>
<tr>
<td>2</td>
<td>Forum for Electromagnetic Wave Propagation</td>
<td>1</td>
<td>1</td>
<td>02 Sep 2015</td>
</tr>
<tr>
<td>3</td>
<td>Forum for Wave Propagation in lossy dielectric medium</td>
<td>1</td>
<td>1</td>
<td>07 Sep 2015</td>
</tr>
<tr>
<td>4</td>
<td>Forum for Wave propagation in good conductors</td>
<td>1</td>
<td>1</td>
<td>07 Sep 2015</td>
</tr>
<tr>
<td>5</td>
<td>Forum for Wave propagation through ionosphere</td>
<td>1</td>
<td>1</td>
<td>07 Sep 2015</td>
</tr>
<tr>
<td>6</td>
<td>Forum for Power flow and Poyntling theorem</td>
<td>1</td>
<td>1</td>
<td>07 Sep 2015</td>
</tr>
<tr>
<td>7</td>
<td>Forum For Electromagnetic Wave Propagation</td>
<td>1</td>
<td>1</td>
<td>28 Sep 2015</td>
</tr>
<tr>
<td>8</td>
<td>sif</td>
<td>0</td>
<td>0</td>
<td>11 Dec 2015</td>
</tr>
</tbody>
</table>

### 3.4 Assignment List
Displays the available assignments in the course.
3.5 Manual
View/Download the User Manual.

3.6 Signout
Logout of Coursepack.

4 Book Organization
A course can have multiple books. The available books are displayed on the bookshelf. This section describes the accessibility to books and their content.

4.1 Magazine View
Selecting a book from bookshelf view opens the magazine view of the book.
4.2 Preface
Preface Page provides a preliminary insight (if available) on the book. It also has hyperlink to the author/faculty’s website.

4.3 Table of Contents
Displays the Table of Contents.
4.4 Chapters

Chapters consists of

1. **Textual content**
2. **Lecture Videos** → Click to view the Videos
3. **Formulas**
4. **PPT** → Click on the ppt to download it
5. **PDF** → Click on the pdf to download it

### 2.1 Gauss's Law

A stationary charge creates a force-field around. The strength of electric field is quantified through electric-field intensity, defined as the force experienced by a small stationary test charge, q, placed in the electric field. The test charge should be small such that its presence does not change the electric field.

\[ E = \frac{q}{4\pi\varepsilon_0} \]

The electric field intensity is measured in N/C. \( E \) is a vector function that satisfies the fundamental principles of electromagnetism given as:

\[ \nabla \times E = 0 \]

and

\[ \nabla \cdot D = \rho \]

where \( E \) is the electric field, \( J \) is the current density of free charges, and \( \varepsilon_0 \) is the permittivity of free space. These principles hold good at every point in space; these are also referred to as point form or differential form.

The total field due to a distribution of charges can be obtained from an integral form of eq. (1).

\[ E = \frac{1}{4\pi\varepsilon_0} \int \frac{Q}{r^2} \, dV \]

**4.5 Bookmarks**

1 Introduction

**Electrostatics is the study of the properties** of electric fields.

[Image of a page from a textbook with a play button icon, indicating multimedia content available.]
Every page can be bookmarked for future reference. The Bookmark icon provided in the top right of the left page. When the page is bookmarked, the icon turns into red colour. The bookmarks can be accessed by clicking. Bookmarks can be deleted by clicking.

4.6 Forums
Forums are used to enhance discussions among students and faculty. There are two types of forums.

4.6.1 Teacher Forum
This is a forum provided for discussion among IIT faculty and local faculties. This forum is restricted to teacher’s view.

4.6.2 Student Forum
Every chapter has a Forum at the end which the students can use extensively for discussion with local faculty and IIT faculty. Forums can be accessed from Forum List and in chapters. Select the required Forum ->Discussion and click on Reply to post a question/answer to any question.
4.7 Quiz
Select a quiz from Quiz List or in chapter. Click on Take Quiz. Answer
the questions and click on Submit button.

10.12.15 Quiz 2 Version 7
This is only edit time and allowed attempt any type quiz............

- **Open Time**: The date and time at which the quiz opens before which the
  student is not allowed to attempt the quiz.
- **Close Time**: The date and time at which the quiz closes beyond which the
  student is not allowed to attempt the quiz.
- **No. of Attempts**: The number of times the quiz can be attempted.
- **Marks**: Marks obtained / Total marks
The Quizzes are MCQ. If students fail to attend any question that could be treated as wrong answer

4.8 Proctored Quiz

Proctored Quiz: A Timer is enabled in the proctored Quiz. Whenever a student start the quiz, a 60 minute countdown timer is started. The quiz is to be completed within the timeout else it is considered as submitted. Proctored Quiz is similar to normal quiz except the quiz attempt date and time can be set by the local faculty. This quiz can be differentiated from other quizzes with the button at the right corner “Edit open date” as indicated in below figure.
This type of quiz has fixed open and close time. The quiz can be made available to students by clicking on Edit open date button and set the open date and time as given in below figure.

**Constraints/Restrictions to be followed:**

- The open date cannot be changed on the last day of quiz open time.
- After setting the open date and the quiz has been attempted (even by one student), the open date cannot be edited again. Quiz is assumed to be completed and closed.
- The quiz is accessible to the students for 3 hours from the set open date and time.
4.9 Assignment

Assignments can be accessed from Assignment List or from the chapter. Select the required assignment. The assignment questions are displayed.

- **Open Time:** The Date and time at which the assignment opens before which the student is not allowed to submit the assignment.

- **Close Time:** The Date and time at which the assignment closes beyond which the student is not allowed to submit the assignment.

- **Cut off Time:** The Date and time at which the assignment could be submitted beyond the close time. In simple terms, a grace period beyond the Close time.

- Assignment could be submitted in a document file format.
Introduction:

This is first assignment of the day............
Here i added some special characters to check all the characters are displaying properly or not...
~!@#%^&*()_..|<=>?/,\][-
1234567890987654321

png file added

Submission status

<table>
<thead>
<tr>
<th>Submission status</th>
<th>Grading status</th>
<th>Obtained Grade</th>
<th>Total Grade</th>
<th>Open Time</th>
<th>Close Time</th>
<th>Cut off Time</th>
<th>Last modified</th>
<th>Files submissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No attempt</td>
<td>Net graded</td>
<td>-</td>
<td>100</td>
<td>Thursday 10th of December 2015 10:00:00 AM</td>
<td>Tuesday 16th of February 2016 12:00:00 AM</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

- **Open Time**: The Date and time at which the assignment opens before which the student is not allowed to submit the assignment.
- **Close Time**: The Date and time at which the assignment closes beyond which the student is not allowed to submit the assignment.
- **Cut off Time**: The Date and time at which the assignment could be submitted beyond the close time. In simple terms, a grace period beyond the Close time
- Click on Add Submission to submit the assignment
- Assignment should be submitted in a document file format.
- Accepted File formats: **DOC, DOCX, PDF, JPG, PNG, GIF**. Upon Successful submission, the details related to it are displayed to the user and the user has the option to download and view the submitted file.
- Assignment submission is allowed **only once as a single file.**
- Only local faculty can grade the Assignment.
4.10 Solutions
Solutions is a chapter which contains the solutions for given assignment. Only teachers can view this chapter.
Grading: In teacher login, only the students enrolled by the logged in teacher can be graded. The grading should be completed within 5 days from the proctored exam date. Ungraded assignments will not be considered for certification.

9. Solutions

1. Given,

\[ E = 20 \cos(5\pi x - \pi) \hat{a}_x, \text{ V/m} \]
\[ \omega = 5\pi \times 10^8 \text{ rad/s} \]
\[ f = \frac{\omega}{2\pi} = 250 \text{ MHz} \]
\[ \beta = \pi \text{ rad/m} \]
\[ \lambda = \frac{2\pi}{\beta} = 2m \]
\[ v_p = \frac{\omega}{\beta} = 5 \times 10^9 \text{ m/s} \]

2. Given,

\[ \mu = 3 \times 10^{-4} \mu \text{H/m} \]
\[ \varepsilon = 1.2 \times 10^{-10} \text{F/m} \]
\[ \sigma = 0 \]
\[ \beta = 2 \cos(10^8 t - \pi x) \hat{a}_y, \text{ A/m} \]

Hence,

\[ B = \mu H = 6 \times 10^{-9} \cos(10^8 t - \pi x) \hat{a}_y, \text{ A/m} \]
\[ f = 10^8 \text{ Hz} \]

Applying Maxwell's equation

\[ \mathbf{B} = \iint (\nabla \times \mathbf{E}) d\mathbf{S} - \frac{2\gamma}{\beta} \cos(10^8 t - \pi x) \hat{a}_y \text{ C/m}^2 \]
## 5 Book Navigation Icons

<table>
<thead>
<tr>
<th>#</th>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td>Table of Contents.</td>
</tr>
<tr>
<td>2.</td>
<td><img src="image" alt="Icon" /></td>
<td>Book shelf view.</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td>Bookmarks List</td>
</tr>
<tr>
<td>4.</td>
<td><img src="image" alt="Icon" /></td>
<td>Quiz List.</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td>Forum List.</td>
</tr>
<tr>
<td>6.</td>
<td><img src="image" alt="Icon" /></td>
<td>Assignment List.</td>
</tr>
<tr>
<td>7.</td>
<td><img src="image" alt="Icon" /></td>
<td>Available only to the Teachers. (Teacher’s forum. restricted to the students)</td>
</tr>
<tr>
<td>8.</td>
<td><img src="image" alt="Icon" /></td>
<td>Zoom In</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Zoom out</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Close the book</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Left arrow for page navigation</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Right arrow for page navigation</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Scroll down the page.</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Bookmarked page</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>User Manual (View/Download)</td>
<td></td>
</tr>
</tbody>
</table>