



Open Education Resource: Flipping the Classroom with MOODLE

Work done as part of FDP201x - 2018
"Pedagogy for Online and Blended Teaching-Learning Process"

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## Topic: Education Technology

Team ID: 1173\_011

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## **OPEN EDUCATION RESOURCES (OER)**

### **Flipping the classroom with MOODLE**

#### **1.0 Introduction:**

Open educational resources are educational materials and resources offered freely and openly for anyone and available under a license that allows users to use, remix, improve and redistribute. Sharing ideas and resources and collaborating on projects as part of a community is key to the Open Education movement.

Learning Management systems like Moodle, Canvas, Gnomio, Wikispace Google class room ets are open educational resources, Using the above mentioned LMS, active learning strategies such as Flipped Class room, Quiz, TPS (Think pare share ) Peer Instructions etc, can be carried out during the class hours. This document elaborates the procedure to develop a flipped class room with an example course Education Technology.

#### **About the OER**

The open education resource is a digitization of Teaching Learning Content. The students and peers can utilize this content, review and suggest through the forum and feedback forms.

Open Educational Resources are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and repurposing by others. OER include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge. "This OER reveals about flipping classroom in the topic : **“EDUCATION TECHNOLOGY”**

#### **Topics Dealt in OER:**

- Introduction to Education Technology

- Teaching Learning Centre and its Benefits
- Learning Management Systems and its Benefits
- Moodle

**The following activities are planned and carried out :**

- Videos using Screencast-O-Matic for out-of-class activities,
- Concept test using quiz,
- power point presentations as resources,
- LxT as an external resources
- LeD activities using quiz
- Discussion forum and survey questions.

✓ OER can be downloaded from <https://wordpress.com/post/kameshwarit.wordpress.com/93>

✓ **Target audience:** Sixth Semester- B.E - Undergraduate of CSE/IT.

✓ **Tags: Flipped Class room, MOODLE, Education Technology, Teaching Learning Centre, Learning Management, Moodle**

✓ OER has developed in MOODLE 3.4

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## 1.2 Learning Objectives

After using this OER, learner will be able to:

- Understand the origin of education technology-**Understand**
- Know about the difference between education technology and technology in education-**Understand**

- Know about the functions of education technology-**Understand**
- list down the domain of education technology-**Remember**
- understand major professional organizations and journals-**Understand**
- Create subject-based network of academicians willing to cooperate in searching and sharing of knowledge related to teaching & learning.-**Create**
- Stand by in Hi-Quality Research & Technology-**Understand**
- Promote Indian economy through World Class Education-**Apply**
- Know about Teaching Learning Centre in India-**Apply**
- Highlight the importance of LMS-**Understand**
- Identify the best practices of Moodle Activity-**Apply**

### 1.3 Tools Used for developing FC

- 1.3.1. For design and development of various topics and its activities in MOODLE (an Open Source Tool)
- 1.3.2. For video lecture preparation, use of Screencast-O-Matic (demo version)
- 1.3.3. For PPT, report preparation, use of MS office .

## Section 2: Design Decisions

### 2.1 Types of Decisions taken

While creating the OER, there are three basic categories with respect to design decisions. They are given below:

1. Content Decisions
2. Pedagogic Decisions
3. Technology Decisions

#### 2.1.1. Content Decisions

The content decisions are based on the following things.

- This team constitutes faculty from Mathematics, Chemistry & English.
- Common topic as “ **Educational Technology** “ is selected for OER activity.
- Different sub-topics have been identified by the committee as Teaching Learning Centre, Learning Management Systems, Moodle. The relevant resource papers, ppt, animation videos, technical videos, self developed videos using Screencast o matic are shared to learn the content of the topics.

### 2.1.2. Pedagogic Decisions

- Introduction and importance about “ Education Technology “ are taught inside the class room using PPT and black board in an interaction manner.
- Contents regarding “ Education Technology” for flipped class room have been given to the target audience as videos, PPT, LxT, Quiz, Discussions, Google Forms .
- Clarifications will be done inside the class room.
  - a. Cognitive Levels of Questions to be asked along with the resources – mostly recall to apply level question for out of class and analyze level question for in class activity
  - b. Assessment Strategies – Multiple choice questions and Summary questions for out of class, Think –Pair-Share strategy for in-class

### Technology Decisions :

While developing the out-of-class and In-class activities, the major technology decisions taken were:

- a. **MOODLE** Lesson Plan Activities are used for out-class activity
- b. **Word Press** for disseminating content plans and ideas.
- c. **GOOGLE Forms** are used for collecting surveys and content assessment from customers and students.

## Section 3: OER Description

### Active OER

For checking the active OER, you may access the Guest Course – “OER\_Education Technology “ in the Moodle Cloud

<https://kamesh.gnomio.com/>

<https://kamesh.gnomio.com/course/view.php?id=4>

id-admin

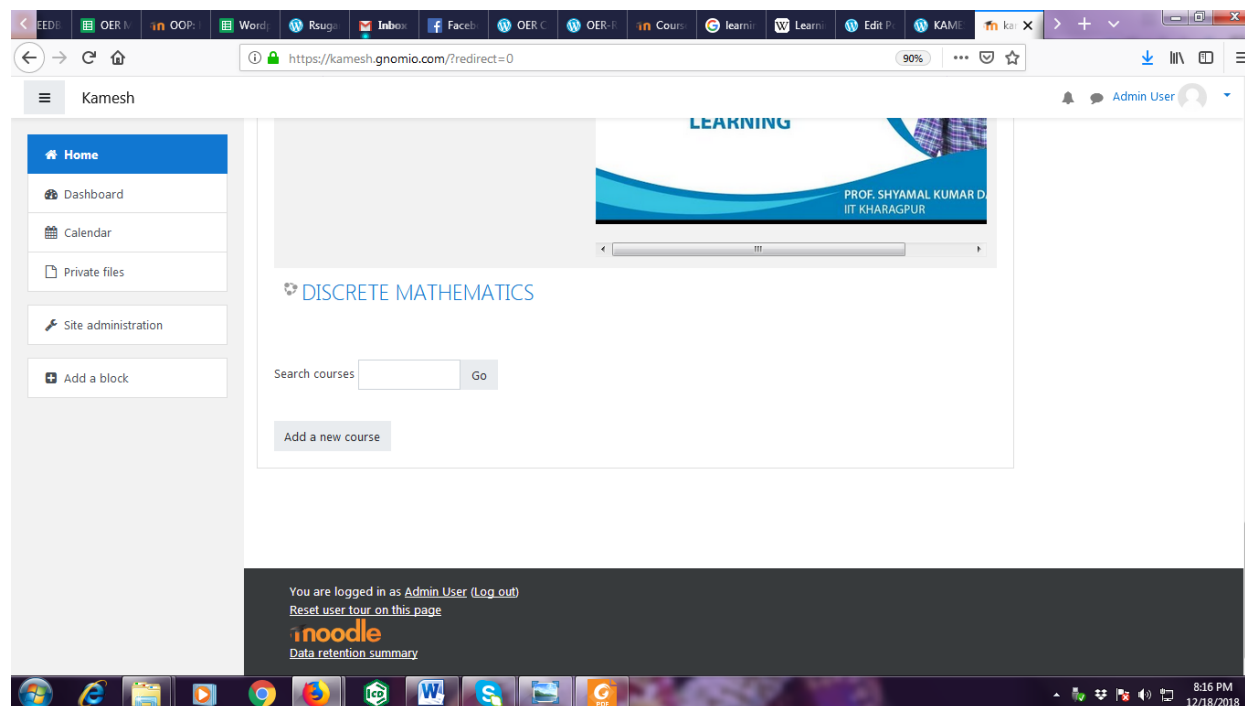
password-oi3Meeza

The guest password required for exploring the activity is: **self-enrollment available**

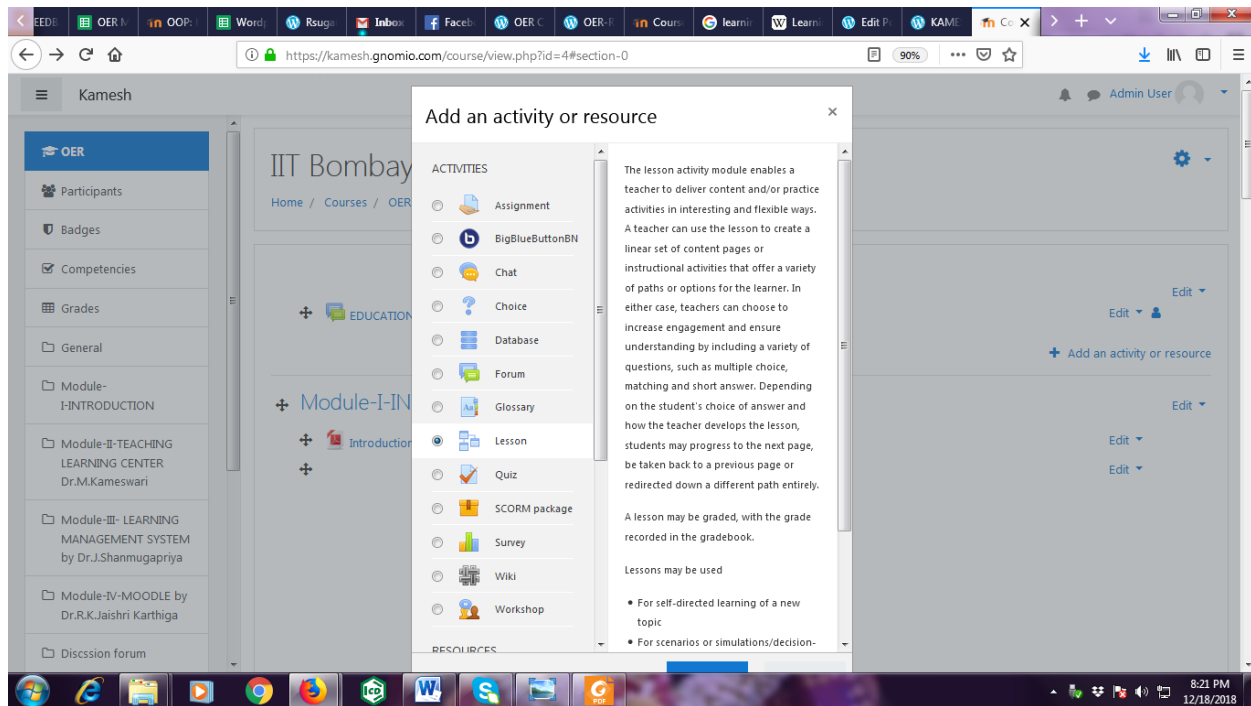
### Lesson Settings

Screenshots 1-3 shows the general settings of a Lesson. This is same for all the lessons. If there are variations, then they are duly noted under each description.

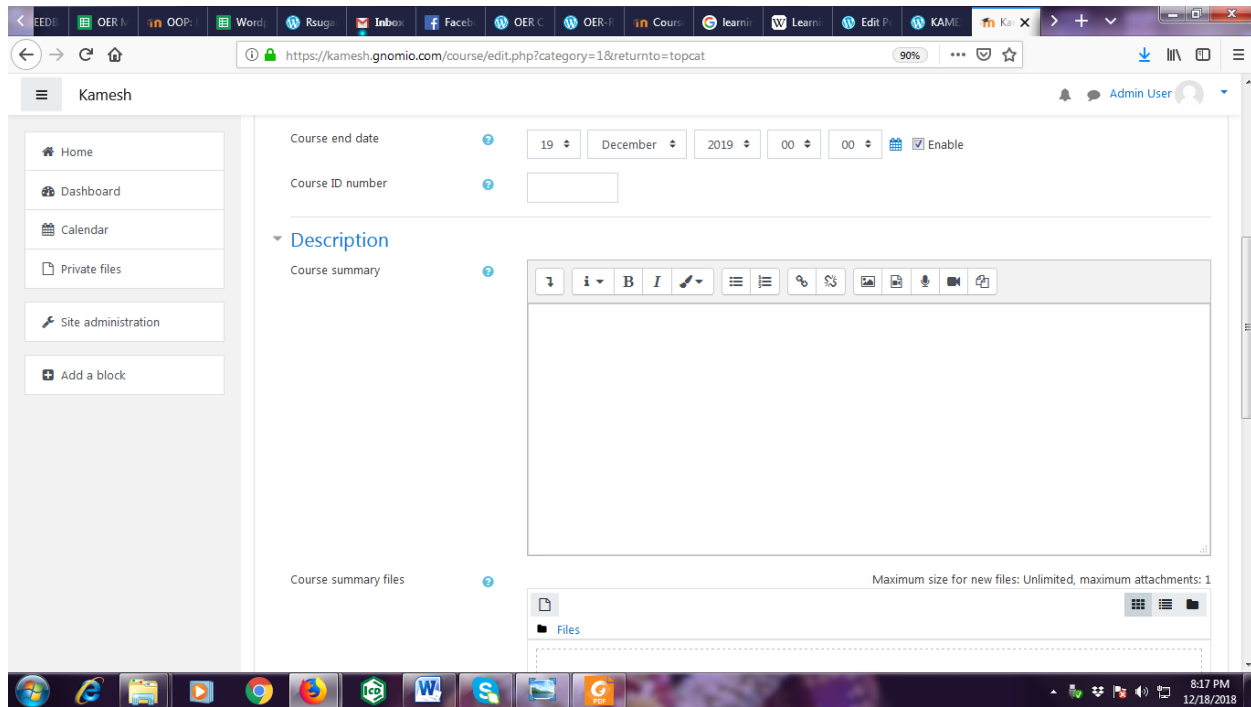
### Screenshot-1-Addition of Lesson

The screenshot shows a web browser window displaying a Moodle course page. The browser's address bar shows the URL 'https://kamesh.gnomio.com/?redirect=0'. The page has a header with the name 'Kamesh' and a user profile for 'Admin User'. A navigation menu on the left includes 'Home', 'Dashboard', 'Calendar', 'Private files', 'Site administration', and 'Add a block'. The main content area features a banner for 'LEARNING' with the name 'PROF. SHYAMAL KUMAR D.' and 'IIT KHARAGPUR'. Below the banner, the course title 'DISCRETE MATHEMATICS' is displayed. There is a search box for courses and a prominent 'Add a new course' button. At the bottom of the page, a dark footer contains the text 'You are logged in as Admin User (Log out)', a link to 'Reset user tour on this page', the Moodle logo, and 'Data retention summary'. The Windows taskbar at the bottom shows various application icons and the system clock indicating 8:16 PM on 12/18/2018.

### Screenshot-2-Addition of Lesson

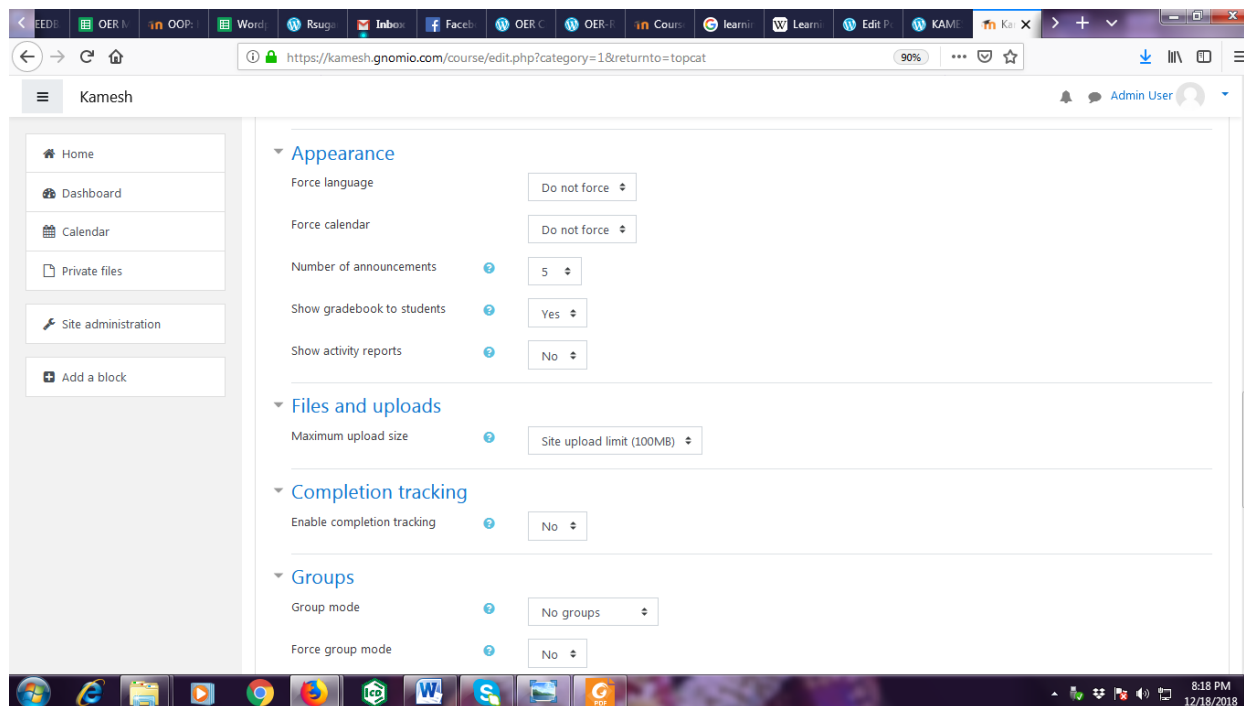


Screenshot-3-Addition of Lesson description

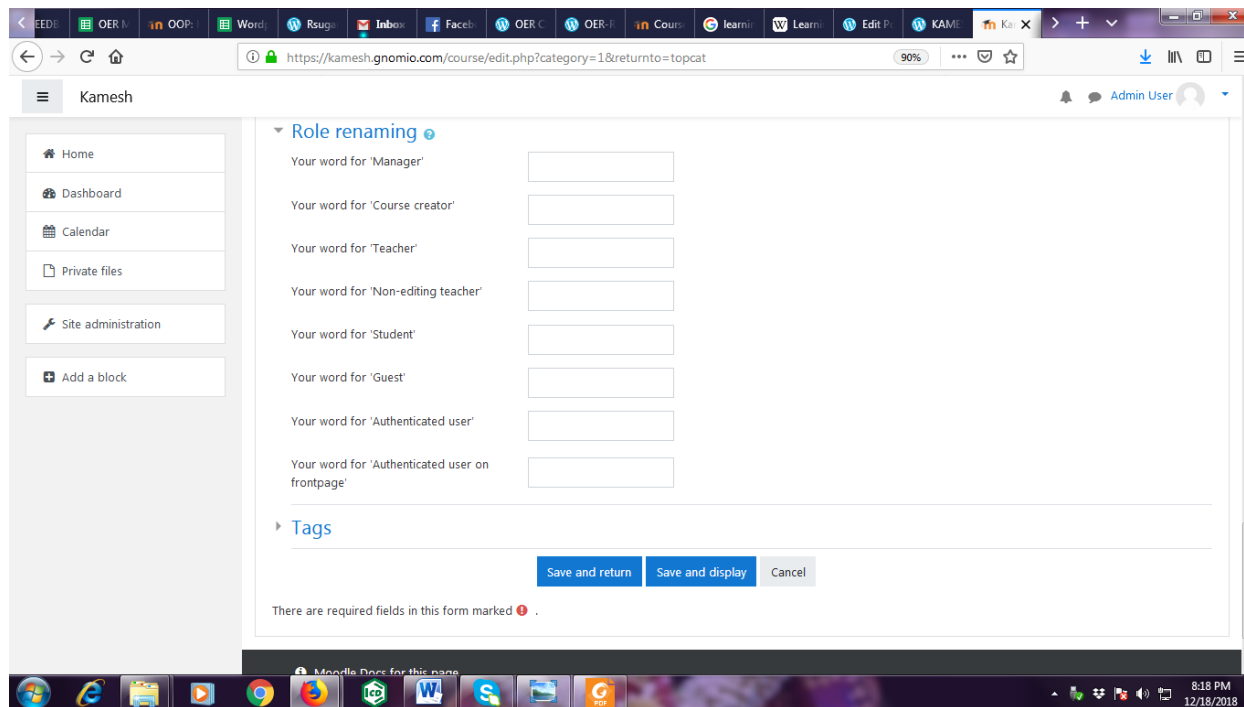


Screenshot-4-Addition of Lesson description

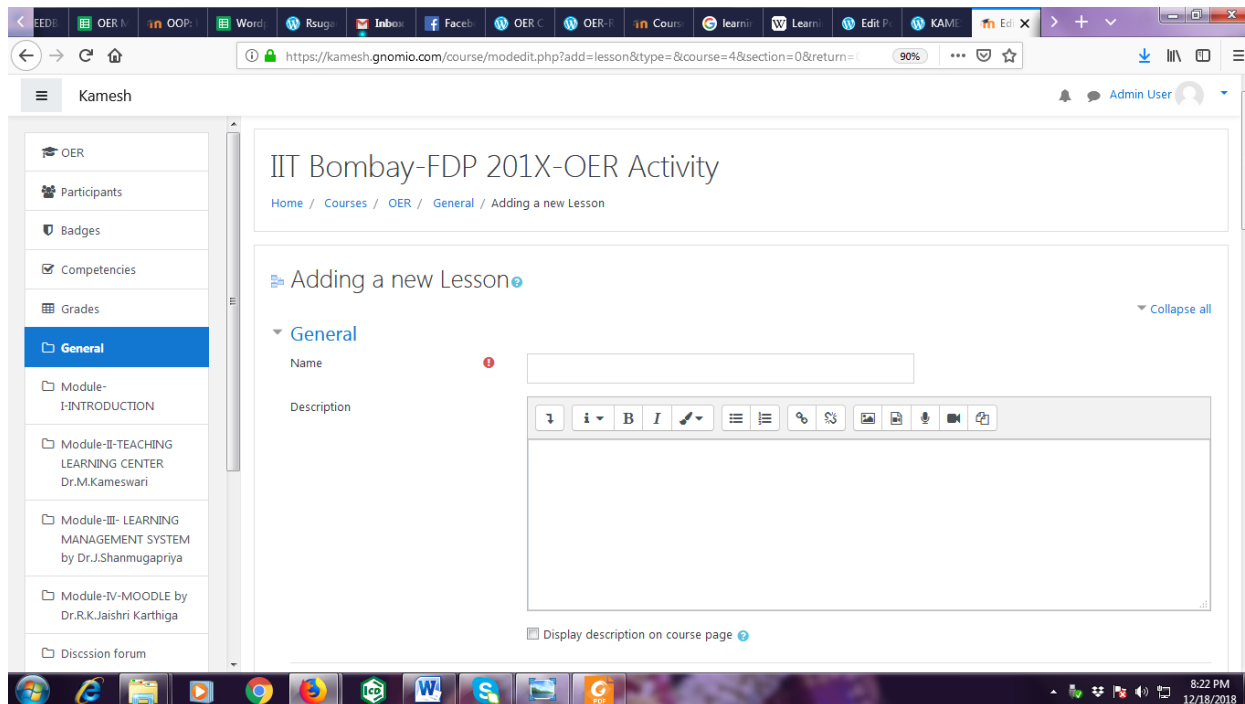




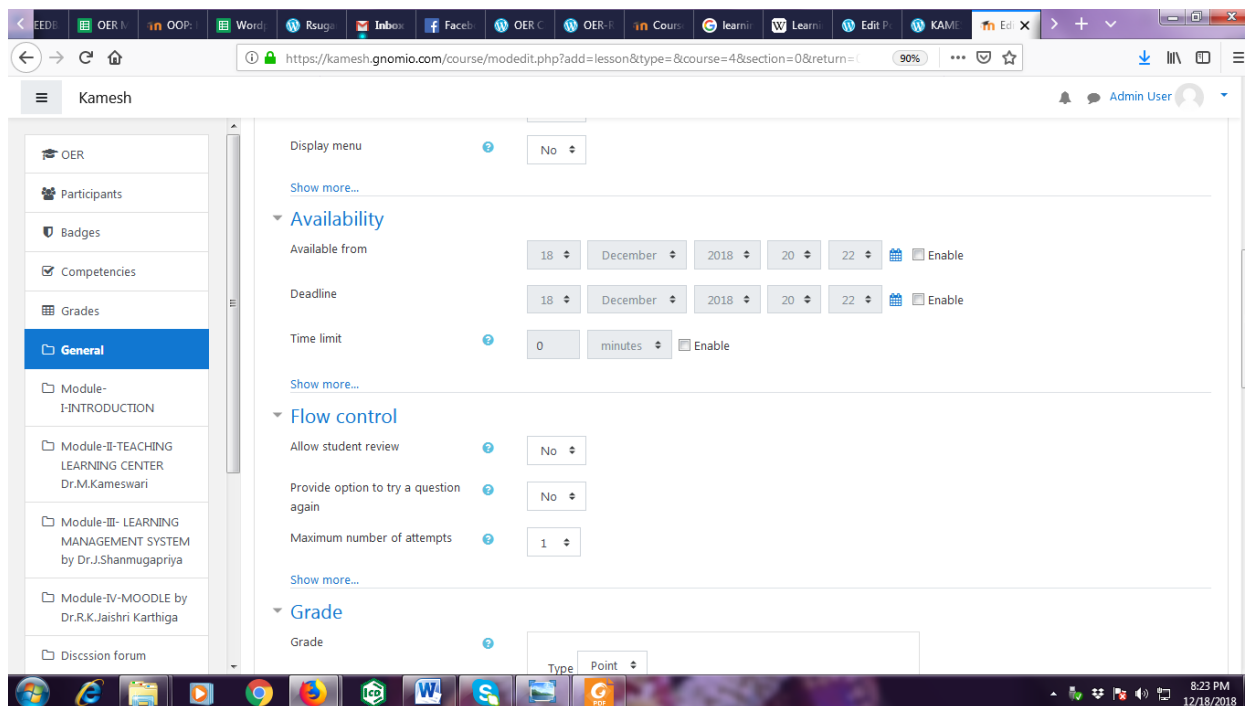
**Screenshot -5-Lesson description**



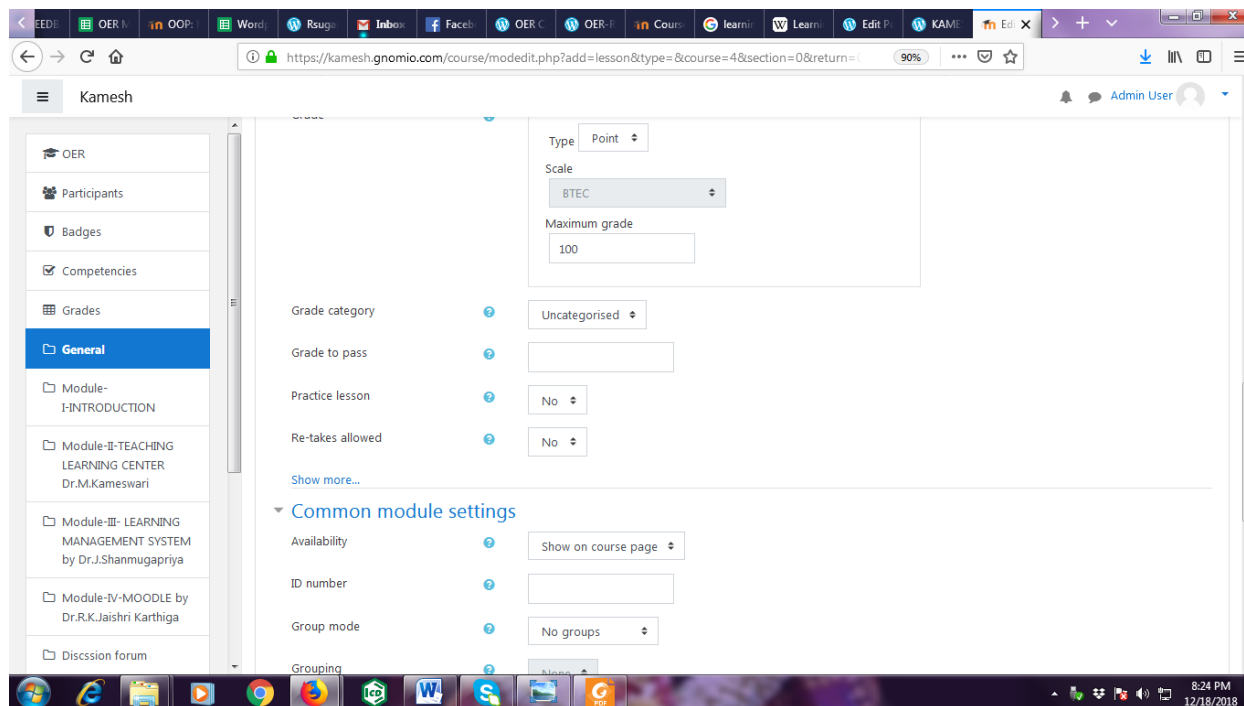
**Screenshot -6-Lesson description**



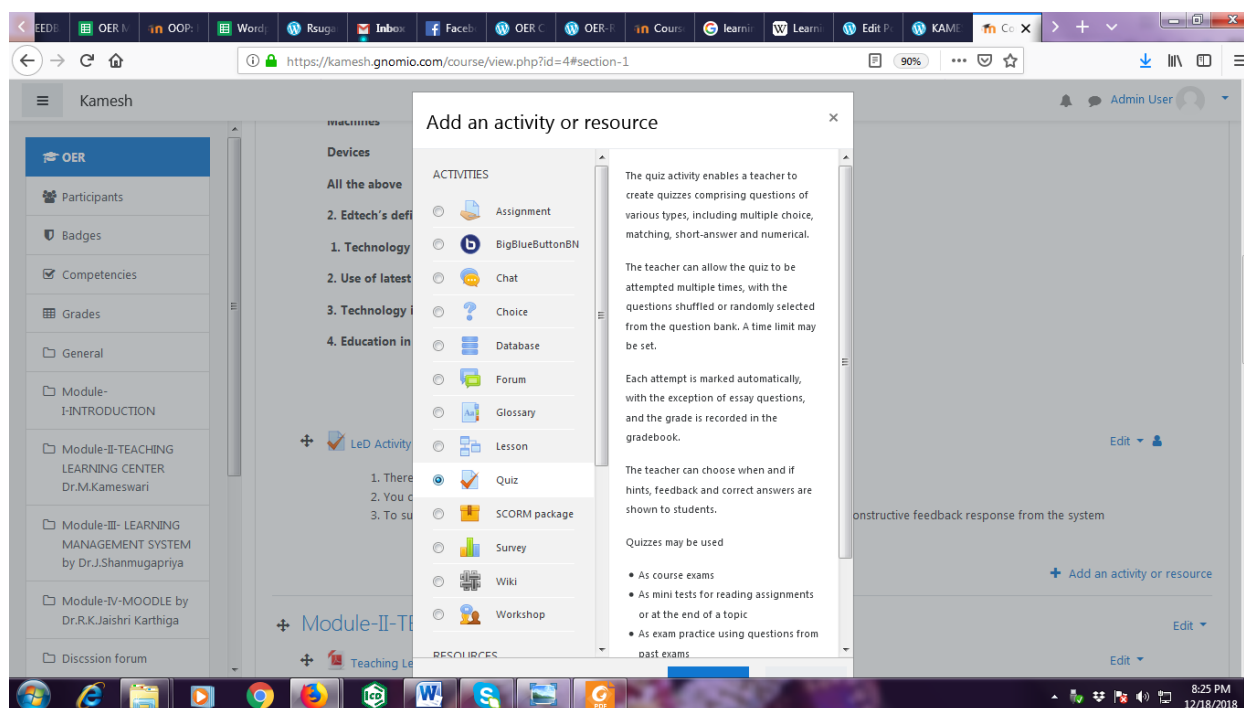
Screenshot -7-Lesson description



Screenshot -8-Lesson description



Screenshot -9-Quiz- description



Screenshot -10-Quiz- description-Multiple choice description

The screenshot shows a web browser window displaying a Moodle quiz page. The browser's address bar shows the URL: <https://kamesh.gnomio.com/mod/quiz/view.php?id=27>. The page title is "LeD Activity Knowledge Quiz".

On the left side, there is a navigation menu for the user "Kamesh". The menu items are: OER, Participants, Badges, Competencies, Grades, General, **Module-I-INTRODUCTION** (highlighted), Module-II-TEACHING LEARNING CENTER by Dr.M.Kameswari, Module-III- LEARNING MANAGEMENT SYSTEM by Dr.J.Shanmugapriya, Module-IV-MOODLE by Dr.R.K.Jaishree Karthiga, and Discussion forum.

The main content area of the quiz page contains the following text:

1. There are 10 questions in this Knowledge Quiz, each carrying 1 point.  
2. You can attempt a question only once.  
3. To submit your answer click "Final Check" button. Once you submit, you will receive the constructive feedback response from the system

Below the instructions, it says "Grading method: Highest grade".

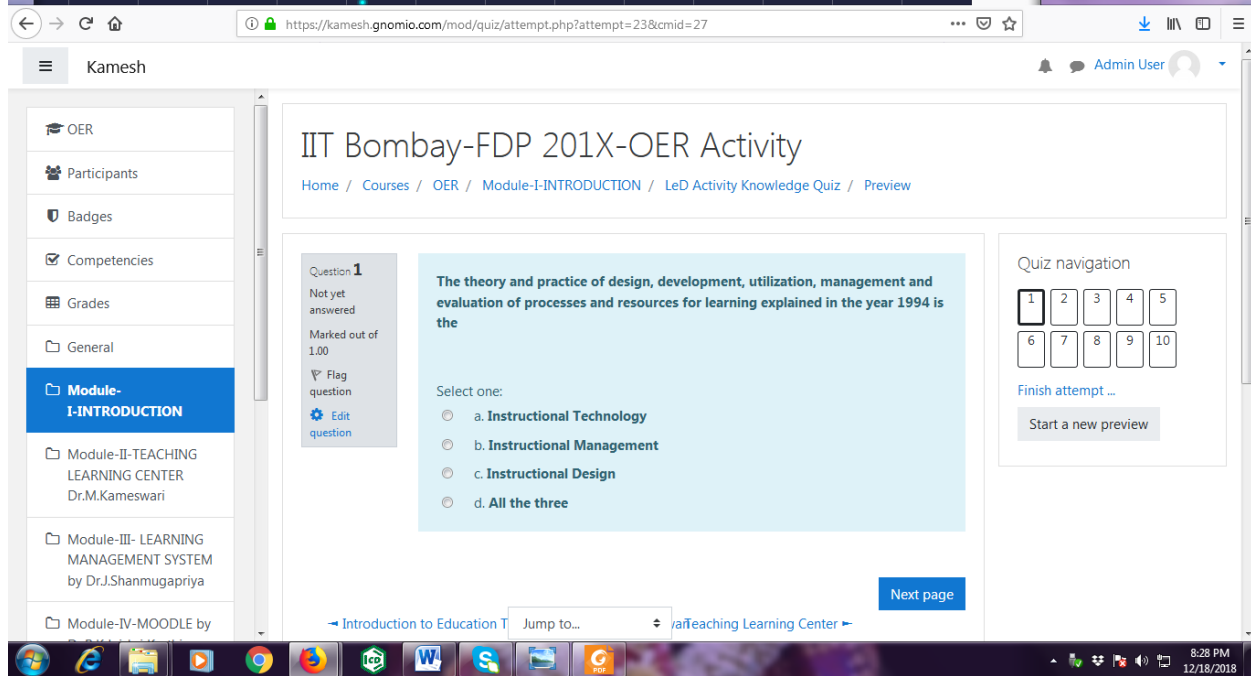
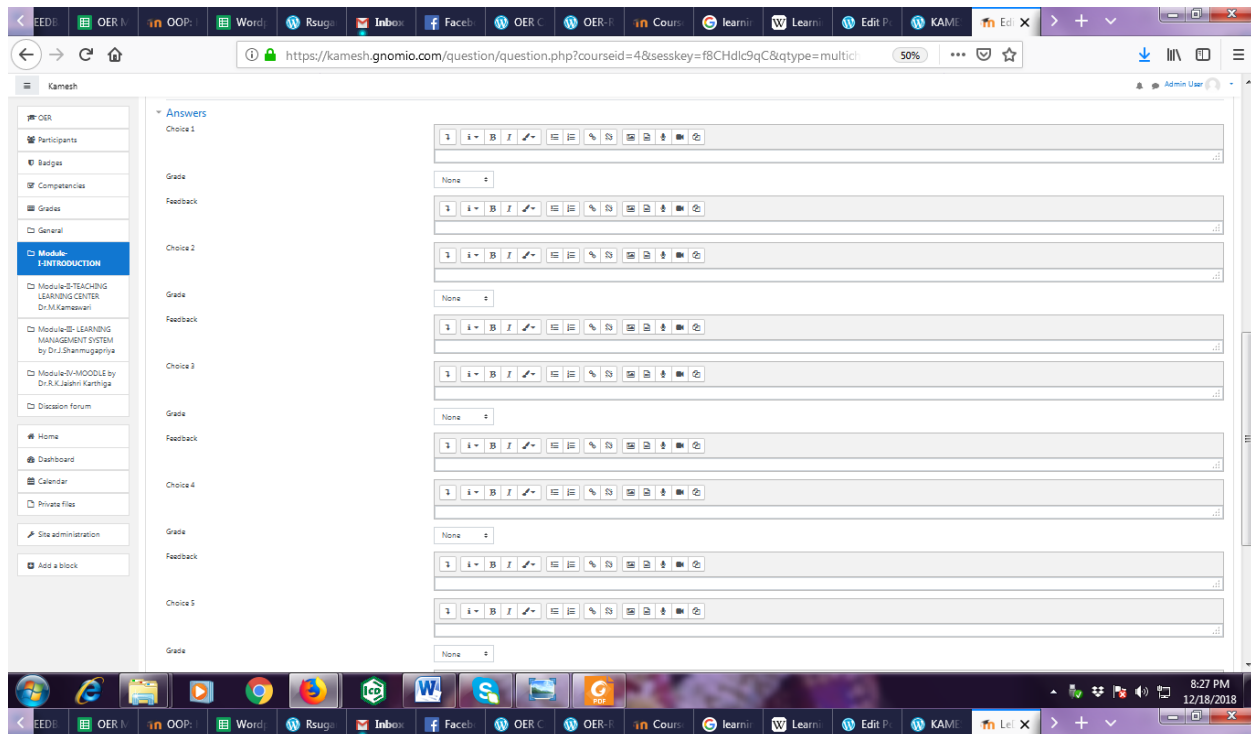
There is a button labeled "Attempt quiz now".

At the bottom of the main content area, there is a "Jump to..." dropdown menu with "Introduction to Education Technology By Dr.M.Kameswari" selected. To the right of the dropdown is a link "Teaching Learning Center >".

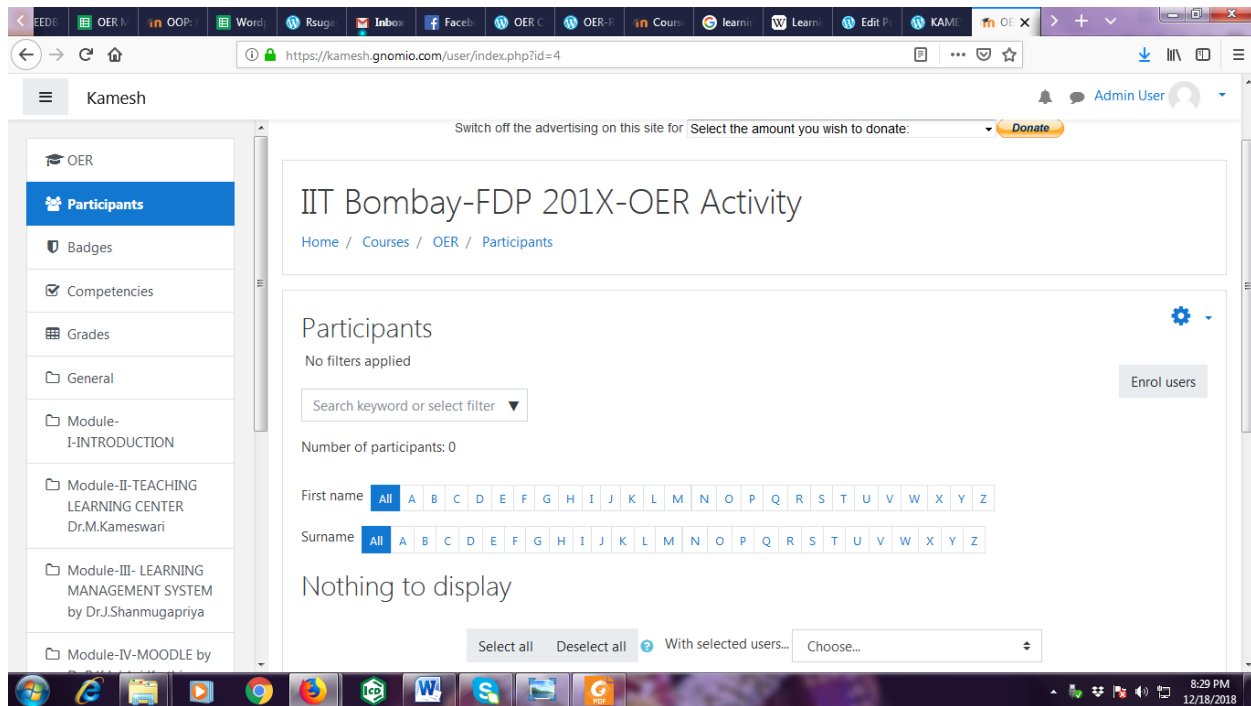
The Windows taskbar at the bottom shows the system clock as 8:26 PM on 12/18/2018. Various application icons are visible in the taskbar.

The image shows two screenshots of the Moodle LMS interface. The top screenshot displays a 'Choose a question type to add' dialog box with the following options: Drag and drop onto image, Embedded answers (Cloze), Essay, Matching, Multiple choice (selected), Numerical, Random short-answer matching, Select missing words, Short answer, True/False, and a section for 'OTHER' containing Description. The background shows a course page with a table of pages (Page 6 to Page 10) and a list of activities on the right.

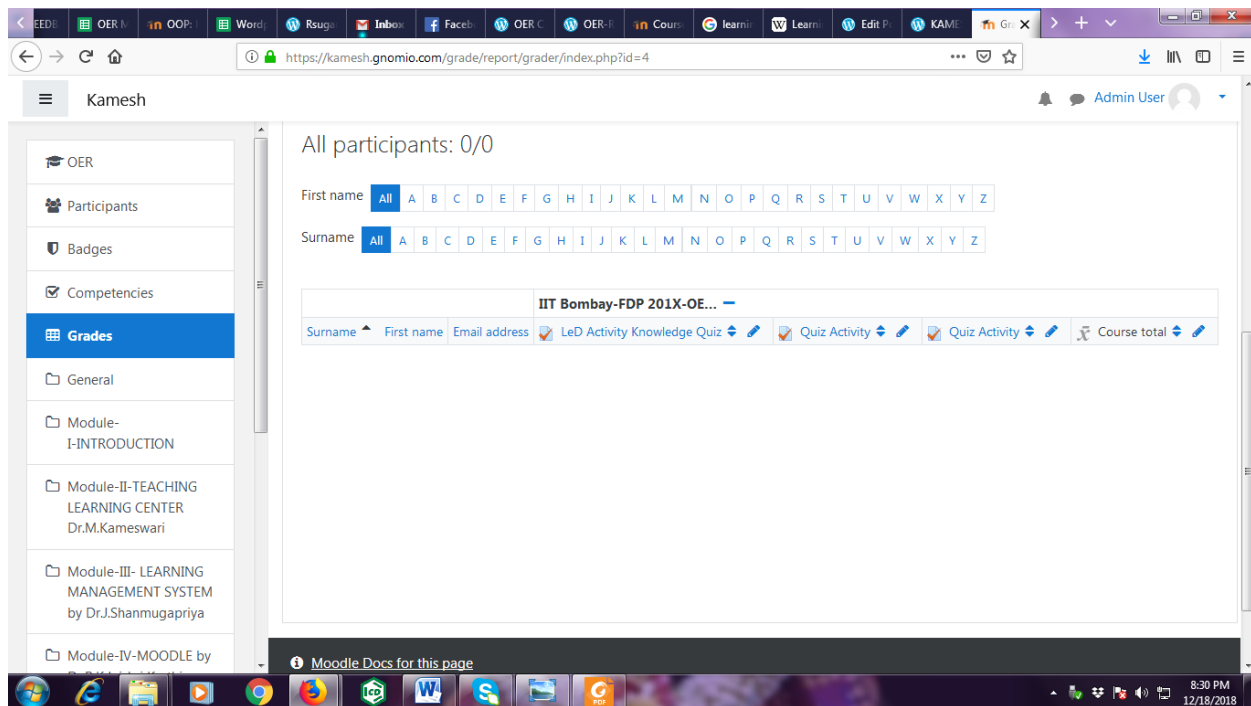
The bottom screenshot shows the 'Adding a Multiple choice question' form. The form includes fields for 'Category' (Default for OER (0)), 'Question name', and 'Question text'. It features two rich text editors for the question text. Below the editors, there are fields for 'Default mark' (set to 1) and 'General feedback'. At the bottom, there are options for 'One or multiple answers?' (set to 'One answer only') and a checkbox for 'Shuffle the choices?'.



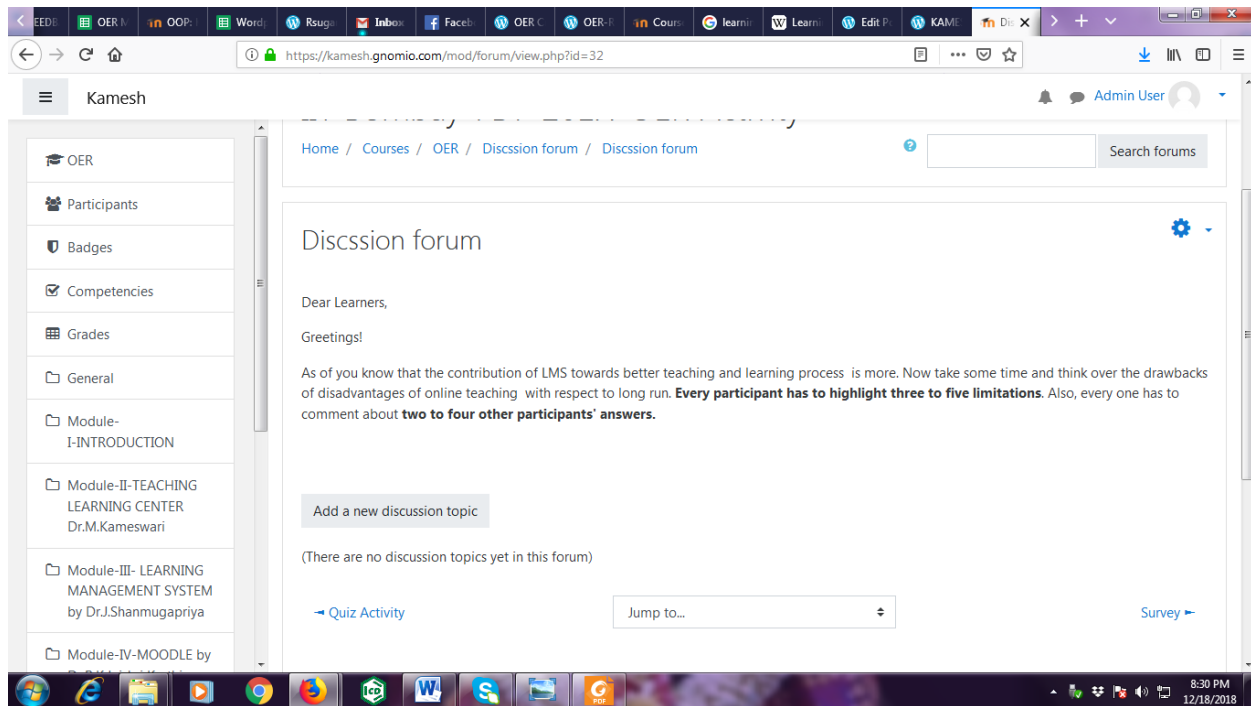
Screenshot –11-Grading of Participants-Quiz- description



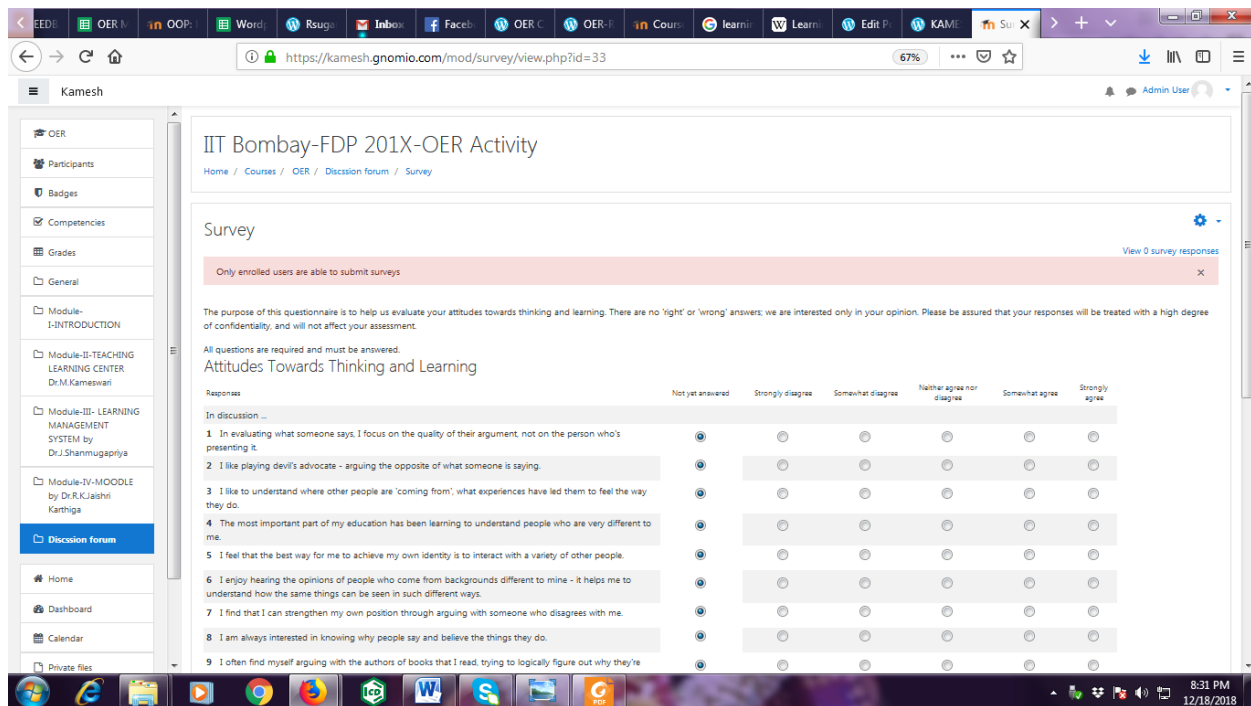
Screenshot -12-Participants



Screenshot -13-Discussion forum



**Screenshot -14-Survey- and feedback collection**



**Screenshot -15-Introduction-Dr.M.Kameshwari**



The screenshot displays a Moodle course interface. The browser address bar shows the URL: <https://kamesh.gnomio.com/course/view.php?id=4>. The course title is "IIT Bombay-FDP 201X-OER Activity".

**Learning Objectives:** After using this OER, learner will be able to:

- Understand the origin of education technology
- Know about the difference between education technology and technology in education.
- Know about the functions of education technology
- list down the domain of education technology
- understand major professional organizations and journals
- Create subject-based network of academicians willing to cooperate in searching and sharing of knowledge related to teaching & learning.
- Stand by in Hi-Quality Research & Technology.
- Promote Indian economy through World Class Education.
- Know about Teaching Learning Centre in India
- Highlight

The interface includes a sidebar with navigation options: OER, Participants, Badges, Competencies, Grades, General, and Module-I-INTRODUCTION. The main content area shows a video resource titled "Introduction to Education Technology By Dr.M.Kameswari".

**Reflection Spot:**

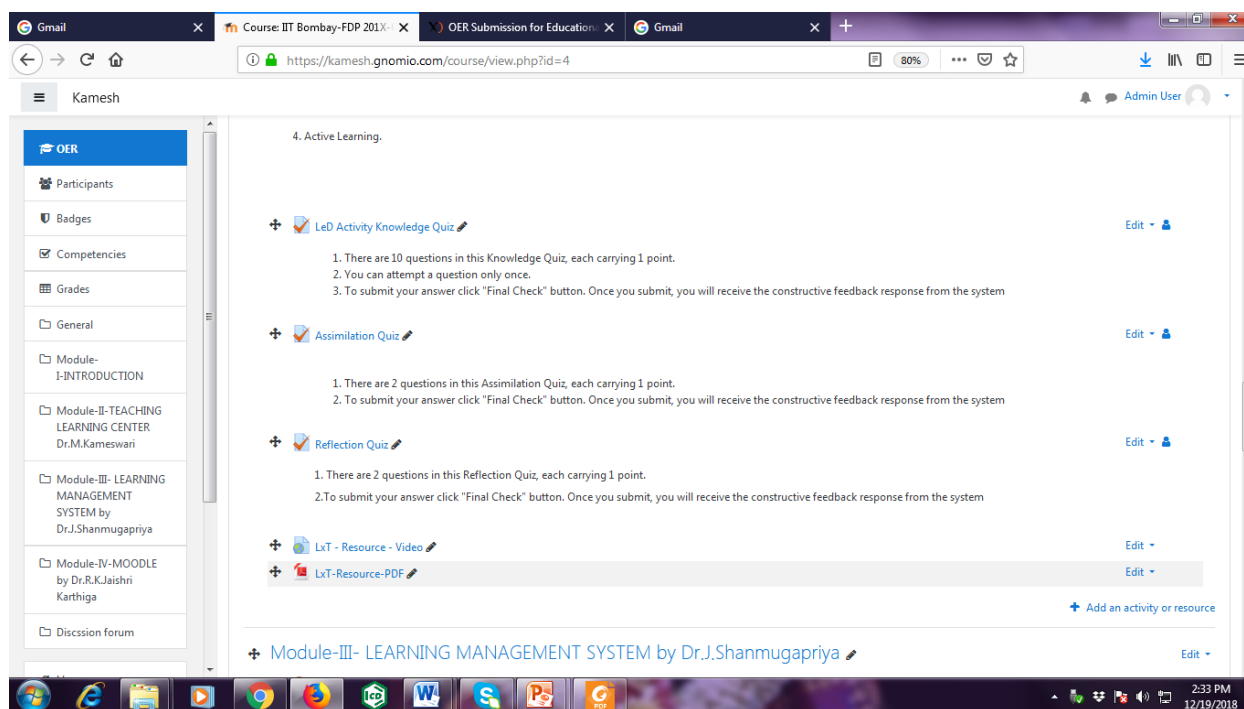
At the time of Video 0.17 secs

1. Technology is commonly thought as

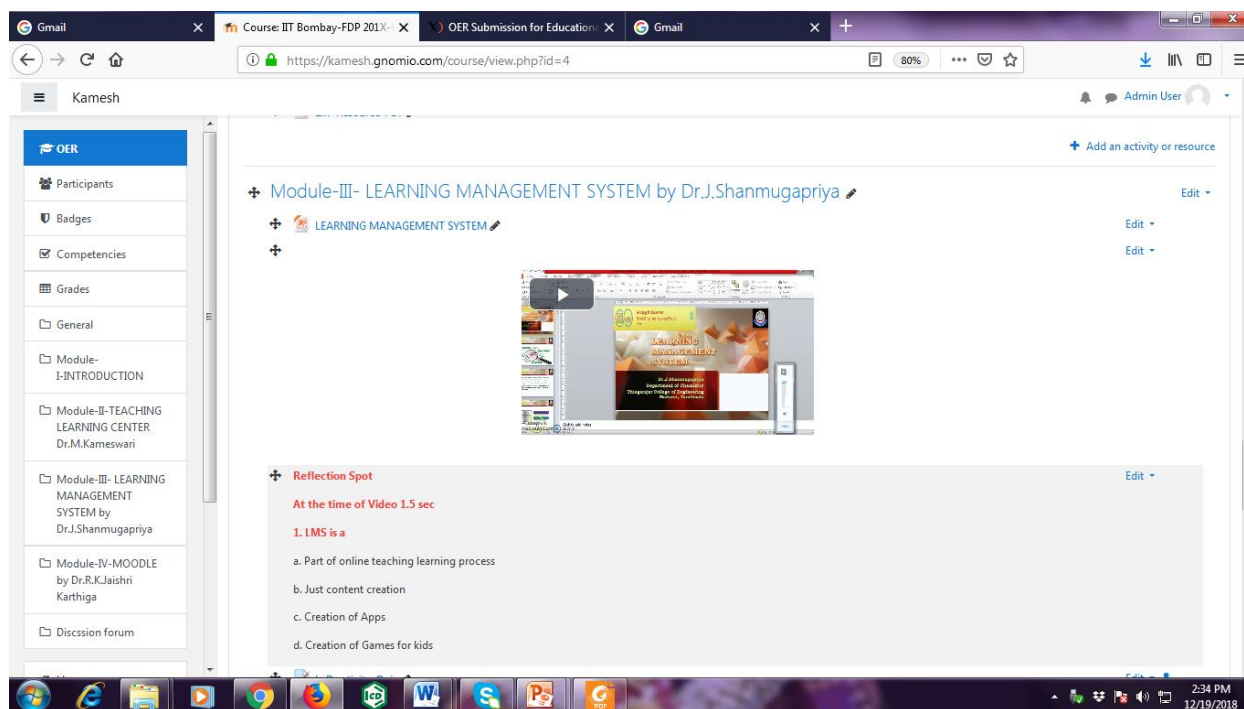
- Gadgets
- Machines
- Devices
- All the above

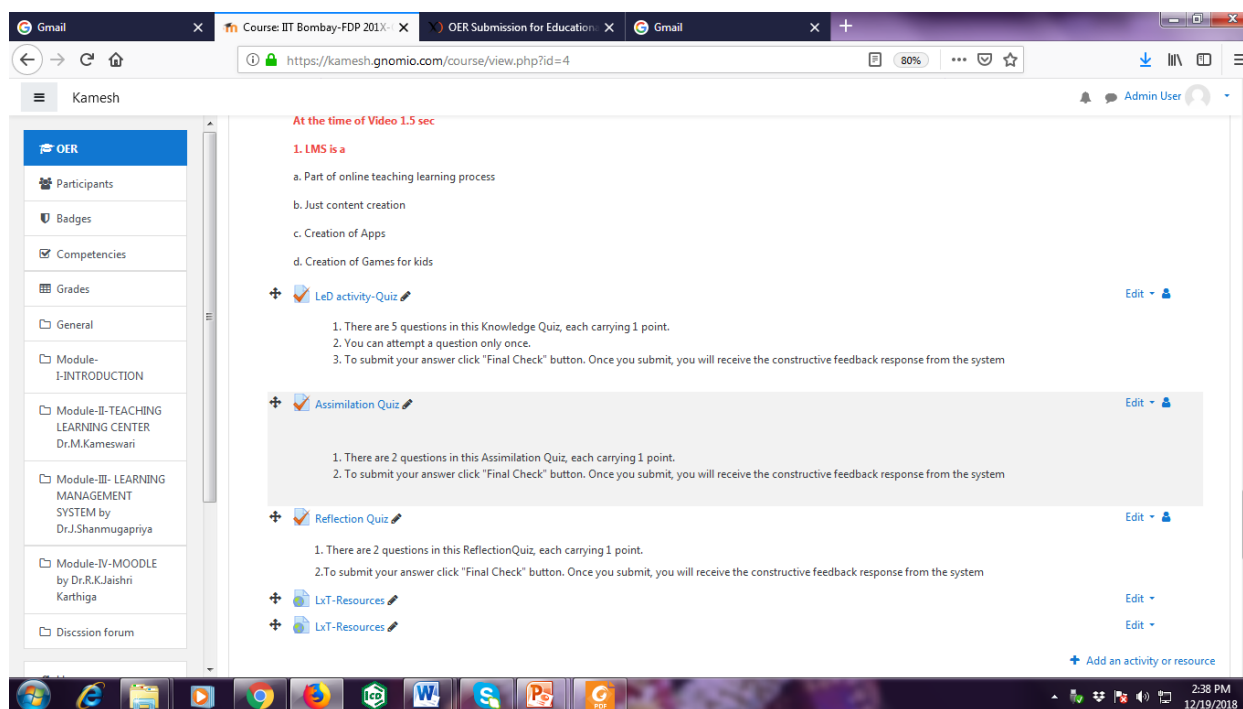
At the time of Video 0.26 secs

The image displays two screenshots of a Moodle course page. The top screenshot shows the course overview for 'Module-II-TEACHING LEARNING CENTER' by Dr.M.Kameswari. It lists several activities: 'LeD Activity Knowledge Quiz', 'Assimilation Quiz', 'Reflection Quiz', 'LxT-Resource-Video', and 'LxT-Resource - PPT as PDF'. The bottom screenshot shows a video player for a 'Reflection Spot' at 7:11 min, with a list of activities: 'Chatting', 'Learning', 'Group Playing', and 'Sharing their experiences'. Below the video player, there is a 'Reflection Spot' at 11:01 min with the activity 'Best Practices in Teaching and Learning'. The user interface includes a sidebar with navigation options like 'Participants', 'Badges', 'Competencies', 'Grades', and 'General'. The browser address bar shows 'https://kamesh.gnomio.com/course/view.php?id=4'.

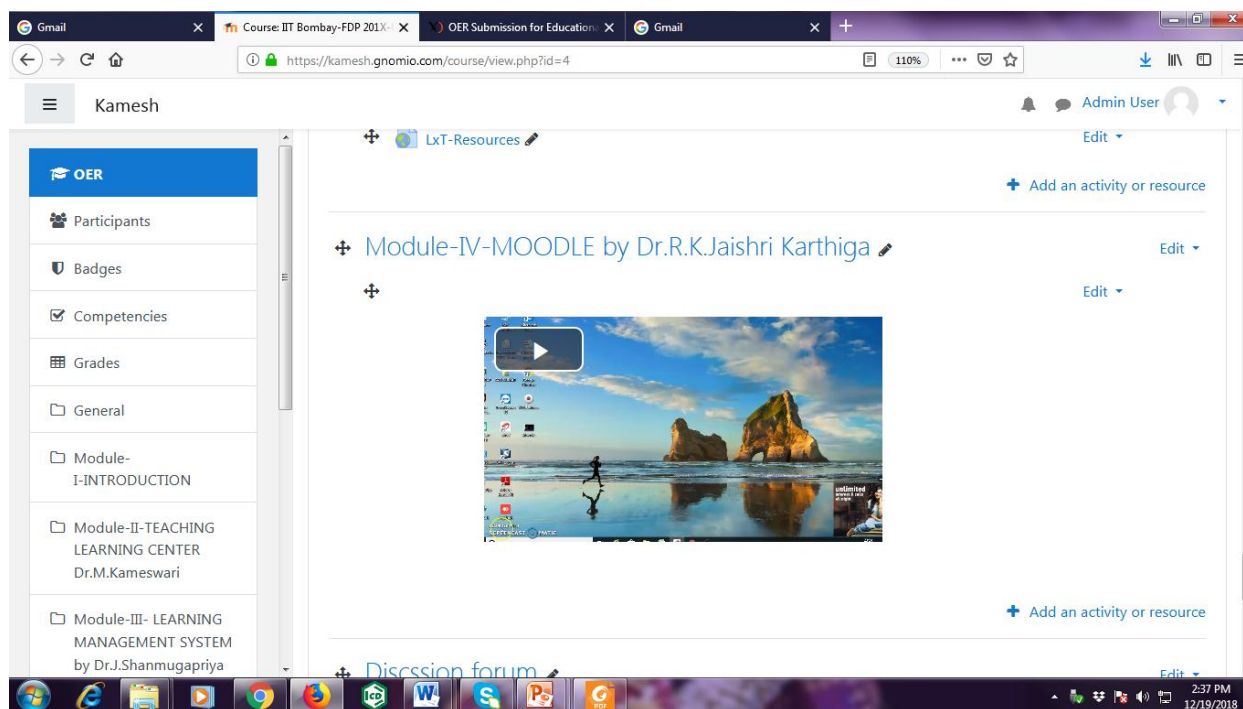


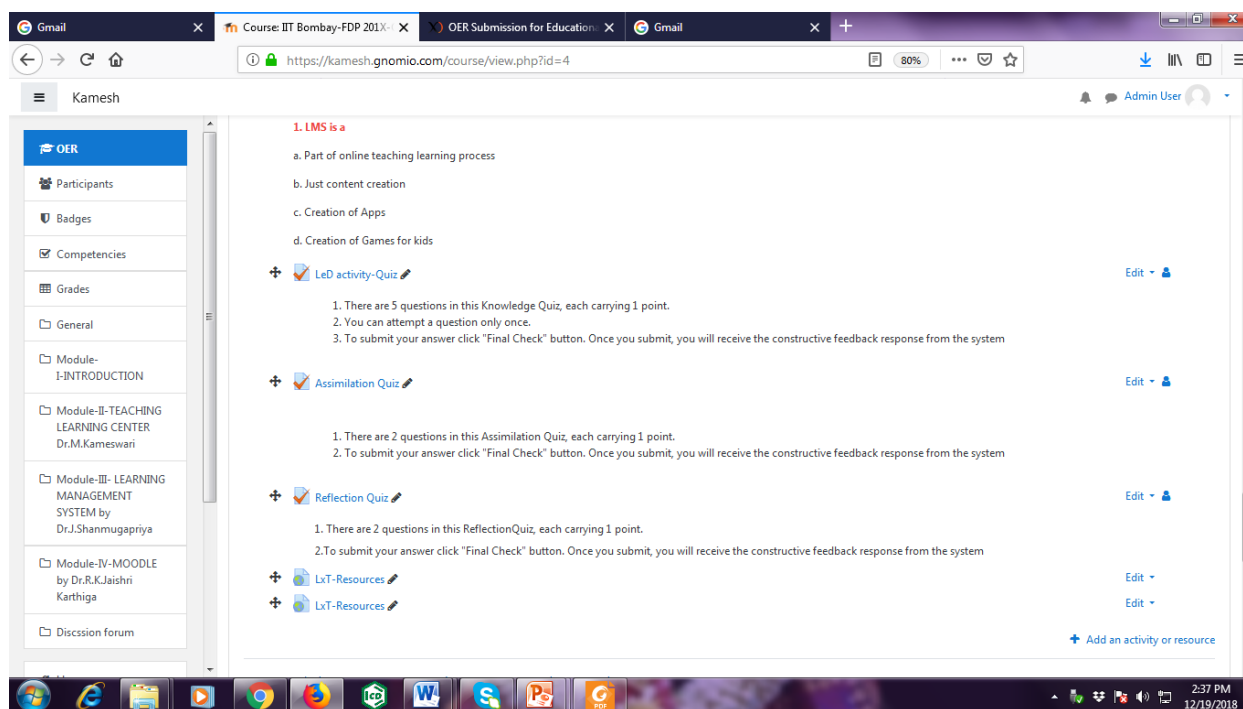
Screenshot -16-LMS –By Dr.J.Shanmugapriya



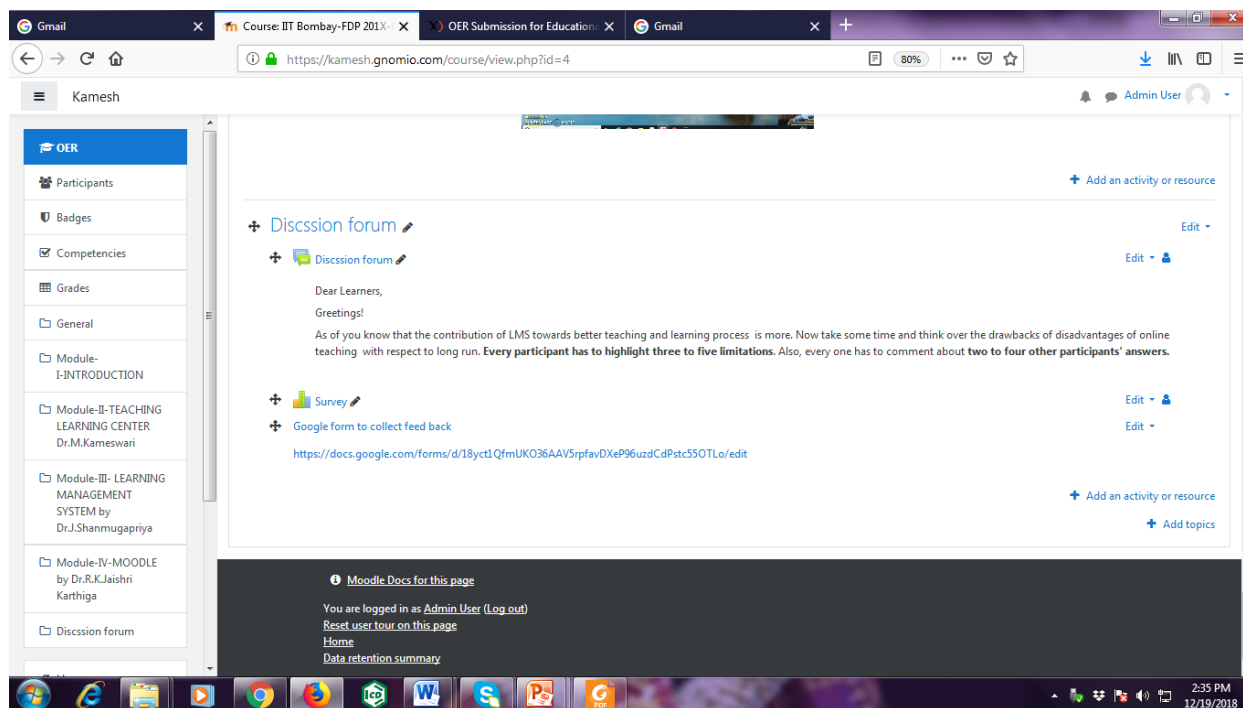


Screenshot -17-Moodle –By Dr.R.K.Jaishrekarthiga





### Discussion Forum



**The instructions provided clearly explain how to download and use the OER in a teaching-learning context.**

- Step 1: Download these backup files into your local machine
- Step 2: Login to your MOODLE course with your admin login and click “Turn editing on”
- Step 3: Choose the “Restore” option from Course Administration block
- Step 4: Upload one file at a time and then click restore
- Step 5: Repeat the steps 3-4 for the other two files
- Step 6: Once the restore is finished, move the lessons to the appropriate section

## Section 4: Evaluation of OER

At two levels, the effectiveness of OER can be assessed:

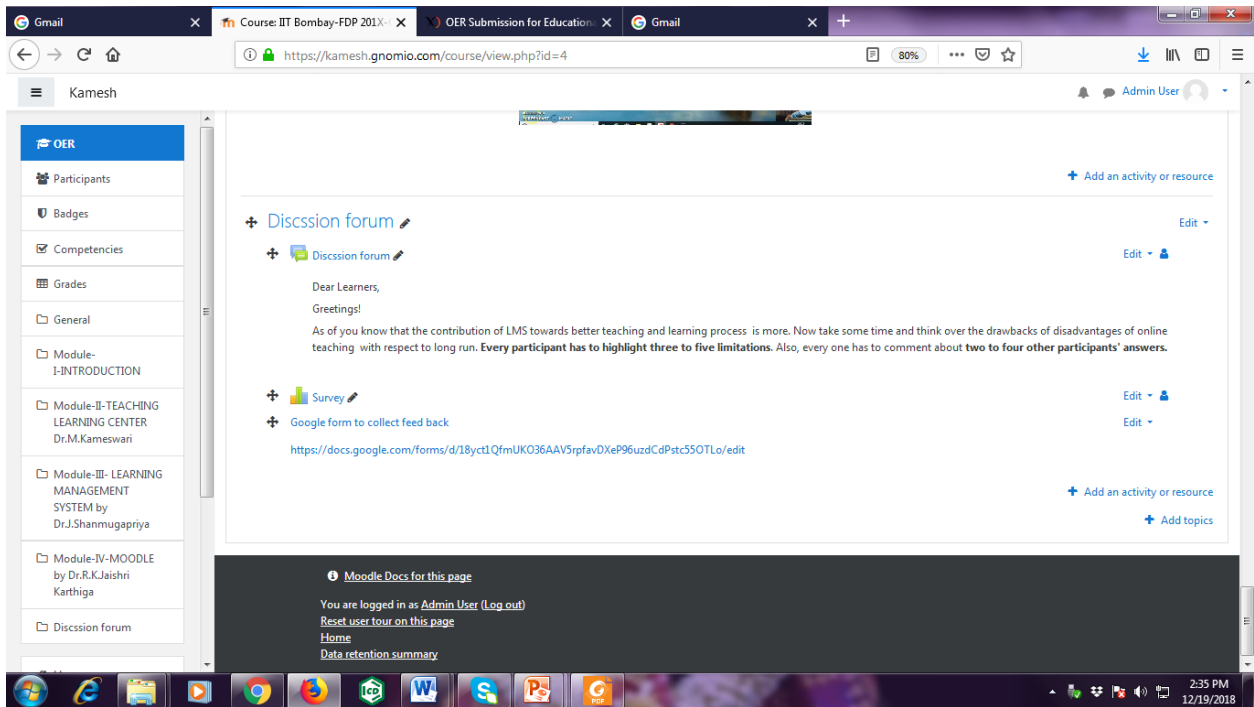
1. At the student level
2. At the consumer level

### 4.1 Effectiveness at the student level

- Using metrics with respect to resource access by each student and student learning the effectiveness can be monitored.
- The Moodle lesson report can be used to evaluate this effectiveness, with the report showing the total number of students who accessed the reports (along with time) and their marks (based on their answers to MCQs). Additionally there is an option for teacher to
- By using the Moodle lesson report, we can evaluate the students. Also we can grade the students based on this report.

### 4.2 Effectiveness at consumer (teacher) level

- This level is meant for teachers who want their students to learn about “ Education Technology”. Linking a survey on four main constructs – Introduction to Education Technology, Teaching Learning Centre, Learning Management System, Moodle can help in identifying the effectiveness of this OER at consumer level. This has to be done as a following activity.



### Implementing Survey:

The survey will be asked through google forms for finding out the effectiveness of the contents to all students and customers through the link given below:

<https://docs.google.com/forms/d/18yct1QfmUKO36AAV5rpfavDXeP96uzdCdPtc55OTLo/edit>

**<https://docs.google.com/forms/d/18yct1QfmUKO36AAV5rpfavDXeP96uzdCdPtc55OTLo/edit>**



## Section 5: Consolidated Log of Team Work

**The consolidated log of team work is as given below:**

| <b>Activity</b>                              | <b>Team member</b>  | <b>Amount of time</b> | <b>Additional logs if any</b>                                                                                                                              |
|----------------------------------------------|---------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Discussion</b>                            | M.Kameswari         | Nearly 1.5 Hrs        | OER creation ICT tools are decided – Moodle cloud and Word press are decided as Information transferring medium                                            |
|                                              | J.Shanmuga Priya    |                       |                                                                                                                                                            |
|                                              | R.Jaishree Karthiga |                       |                                                                                                                                                            |
| <b>Tool Exploration</b>                      | M.Kameswari         | 2.5 Hrs               | The Online tools used for OER. The Moodle cloud is the medium to execute the OER. The word press site is used for Knowledge dissemination to the students. |
|                                              | J.Shanmuga Priya    | 1.5 Hrs               |                                                                                                                                                            |
|                                              | R.Jaishree Karthiga | 1.5 Hrs               |                                                                                                                                                            |
| <b>OER Creation</b>                          | M.Kameswari         | 2.5 Hrs               | Decided the following:<br>Learning Objective Course Material MCQ, Feedback & Student Enrollment                                                            |
|                                              | J.Shanmuga Priya    | 2.0 Hrs               |                                                                                                                                                            |
|                                              | R.Jaishree Karthiga | 2.0 Hrs               |                                                                                                                                                            |
| <b>OER Documentation</b>                     | M.Kameswari         | 3.5 Hrs               | Section 3 & 5                                                                                                                                              |
|                                              | J.Shanmuga Priya    | 3.5 Hrs               | Section 1 & 2                                                                                                                                              |
|                                              |                     |                       |                                                                                                                                                            |
|                                              | R.Jaishree Karthiga | 1.0 Hrs               | Section 4 & 6                                                                                                                                              |
| <b>Individual Reflection (Diary Logging)</b> | M.Kameswari         | 30 min                | Reflection is monitored by Whatsapp.                                                                                                                       |
|                                              | J.Shanmuga Priya    | 30 Min                |                                                                                                                                                            |
|                                              | R.Jaishree Karthiga | 30 Min                |                                                                                                                                                            |
| <b>OER Evaluation</b>                        | M.Kameswari         | 45 Min                | Suggestions are incorporated and                                                                                                                           |
|                                              | J.Shanmuga Priya    | 45Min                 |                                                                                                                                                            |

|  |                     |        |                                               |
|--|---------------------|--------|-----------------------------------------------|
|  | R.Jaishree Karthiga | 30 Min | same has communicated via email and whatsapp. |
|--|---------------------|--------|-----------------------------------------------|

## Section 6: Building a Community of MOODLE and Flipped Classroom Adopters

### Community Building - Possible Sources

- Already ICT used community teachers who use MOODLE and Flipped class room strategies can be in touch with each other and develop a community.

### Plans for Community Building

- Students' community can be built using the mail ids of the registered participants. Using some forum/groups, they can be in touch and can build the relationship.

## Works Cited

1. MOODLE. (2018, December) Moodle Docs. [Online].  
<https://docs.moodle.org/>  
<https://charlesrajas.moodlecloud.com/>
2. Screencast O Matic [online]  
[www.screencast-o-matic.com/](http://www.screencast-o-matic.com/)
3. [NPTEL and EDX videos](#)

