

## **ON LINE LEARNING SYSTEM FOR COMPUTER SCIENCE DEPARTMENTS**

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**ABSTRACT** In gist, e-learning is pedagogic tool in a computer system or a framework that cement you to impart anywhere and at any time. Today e-learning is particularly convey though the internet, although at past it was delivered using a mixture of computer-based methods like CD-ROM. The development of technology has the geographical gap is bridged by using a way that can imagine you inside the classroom. E-learning show the strength to participate articles in all types of formats such as word, videos, slideshows, and PDFs. Conducting webinars (Online courses) and communicating with professors via chat and message forums it is a choice obtainable to users.

This paper presents idea of e-learning system based on Computer Science Department through it listed all the common subjects of these department with a many types of media of teaching that deliver text, audio, image, animation, streaming video and includes discussion forums, Chat rooms, Wiki spaces, Online Messaging, Journals. It can be assessed on an ongoing basis through Online and offline assignments Quizzes Collaborative activities which may make use of some of the interactive communication tools. The Software used in this representation is Moodle software. Moodle is an Open Source web software package in LMS (Learning Management System) for producing internet-based educational and training courses within the web environment .The prepared System is called ELCS D (E-Learning for Computer Science Department).This ELCS D will help users and students improve their grades, better understand concepts from class, and prepare for tests. Most video lessons are 10 minutes or less, so they get the needed information in a fast and fun format.

**Keywords:** *E-learning, moodle, Education*

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### **1. INTRODUCTION**

A large amount of prepared e-learning framework what is known as an (LMS)(Learning Management Systems) .<sup>(1)</sup>

Because of the most substantial growth in cultivation has occurred since the emission of the internet. Now the erudite are clever in using the smart phones and the internet, so sharing and collaborating in online courses is became very simple. In the quick step the e-learning became ready in the new technologies to create an attractive lectures and it can changed according to update information to give to the student new information. That is significant because of the e-learning system is used by workers in a section where maintenance what is new on industry expansion of the extreme significance. This reasons Show why numerous works now suggestion the training by e-learning and the second reasons is the lowing of and the beneficiary can study on their own time and site . Chiefly, the classical learning is costly and it take , takes an extended time, and the outcome is vary<sup>(2)</sup>.

The process of tasty information and detained it with the aim of growing expertise and the capability with a view to get the goal is called the characteristic of learning.

## 2. MOODLE APPLICATION

The "Moodle" is a ready software considered as an open source system and it is one of the Course Management System (CMS) is documentary using the PHP language, it prepared to aid the learner in designing an online courses for colleges, universities, works and for preparing training courses in interesting ways. Most of the scientific institutions around the world used this application up about 30,000 corporation. This software can downloaded freely in the sites "<http://www.moodle.org>"<sup>(3)</sup>. Figure 1 represent the web site of "MOODLE". The word "Moodle" is brief of "Modular Object-Oriented Dynamic Learning Environment" This software is designed by " Martin Dougiamas" the scientist of Perth Australia university<sup>(4)</sup>.

## 3. CONTENT MANAGEMENT SYSTEMS (CMSS)

The (CMS) is a system used in web enforcement, it mean is able to be active by a server and can be accessed by any web browser<sup>(5)</sup>. The server for "Moodle" application it can be existed in university or the organization of the user. But it can be put in any place in the world. The system is available for any users or students in all the world area with net connection. The CMSs award learners material to originate a website course and assist the register students to control and seeing that. Within CMSs there are a different suggestion for making the courses more wonderful and effective. They supply a simple way to load and participate substances, keep all the debate and chatter online ,allow examinations and mopping, collect and check assignment then , then register the marks.

Several CMSs have a tools simply to easily issue the content, instead of employ the editor of the HTML after that it should send the prepared documents to the server by FTP (File Transfer Protocol). The user can easily used a web format for storing syllabus within the server. Numerous guides can be loaded within a syllabus, like notes, lectures and any materials of students can accessed what he want.

There was an on-line format and chatting this considered as provide a wherewithal of connecting outgoing of the schoolroom session. Meeting allow the learners the time to produce their answers and lead to extra debating. Also the chatting allow the user to connect with the distant students simply and fast. The students can discussed the courses between each together before exams. The marks of on-line exams are getting at once.

## 4. OPEN AND FREE

The term "open " means "open source" that enable the users to reach the main code of "Moodle" application. The user can see, gadabout, and or can cut a part of application to participate it with the user product <sup>(1)</sup>. This feature is very important because it stratify with the academic society significance of license, knowledge and awareness participation.

The "Moodle" application is free can anybody downloaded and installed on any server desired. There was videos for teaching the instructions of using this application. The "Moodle" application is different from other cost CMSs that need a authorization fees and repairing knot<sup>(2)</sup>.

## 5. ACTIVITY OF LMS

The "LMS" is the mnemonic of Learning Management System .This activity is developed for proceed the on-line lessons, permitting cooperation between the learner and the staff and apportionment the materials of the course .

A "LMS" permit the user to administer all field of course ,starting in registration for a student ,ending with storing the exams results. In addition of that you can stay in touch with the teacher.

In substance the LMS is the spine of several activities of e-learning ,it is structure depend on different programs like PHP or JAVA or other languages .NET and will connect to a Database to permit the teacher to develop the sequence of learning<sup>(6)</sup>.

## 6. STRUCTURE OF ELCSO

The ELCSO system prepared in using of e-Learning across all Computer Science Department to enhance the student experience and to suspense the teaching, learning and advice on the development of E-learning resources.

The most important factor of learning is the time for the students and lecturer. In the status of normal learning ,the learners share the teacher by the place and the time<sup>(4)</sup> . Furthermore the e-learning does not care where the student can present.

The ELCSO work neatly with Colleges to assist boost the online curriculum and student experiment.

Also ELCSO can scout the advanced technologies to assist learning and teaching. Designing an ELCSO system to facilities and reflect the excellence of the teaching, learning and counsel on the expansion of the e-learning exchequer and to work neatly with Colleges to develop online curriculum and student experiment.

### Designed Pages of ELCSO System

At starting of activated ELCSO the front page of ELCSO system will appear as of ELCSO figure 2.shows the front page of ELCSO.

After View a short period for a front page, home page will display as a second page. Within the second page there is a details of ELCSO system like:

1. Courses.

1. 1<sup>st</sup> Class.
2. 2<sup>nd</sup> Class.
3. 3<sup>rd</sup> Class.
4. 4<sup>th</sup> Class.

2. Location of collage.

3. Calendar.

Such as in Fig.3 represent the home page.

The classes on the home page contain courses and syllabus for each subject in the chosen class, as shown in figure 4.

There are four classes within this page see fig. 4. When you click on the fourth classes (for e.g.) the web site asks for user name and the password. The user names and passwords had been given to student by admin of the website lecturers, regular peoples cannot sign in, but they can visit the websites (guest) so they can't join, read or watch the Courses. If any student writes the right user name and password he (she) can access to course page to be sign in like page in fig.5.

After accepting and filling the information in Login Page a Course Page appear. The Course page contains:

1. A short history about the lesson.

2. The resource about the lesson (syllabuses) for student like PDF that can the student download the source, this resource can add by the teacher or the admin of the website. As shown in fig 6.

About the lesson or about the practical part videos are available for student to watch it and to understand the lesson more clearly. The student can add comment about these videos. As show in fig. 7.

Designed also a Chat class room page. It is a chat box so teacher and students can chat between each other's. They can discuss the lessons together, homework, questions and instructions given by the teacher. As shown in fig 8.

Icon for Facebook were created to add the new news about every new lessons. As shown in fig 9. Finally, through clicking on Exam bottom so testing will occurs for that lesson ,as shown below in fig. 10.

After finished the test, student can takes the result of 100% and can watches the key answer for the test so he (she) can know the correct and wrong answers will be appear on this test as shown in fig 11.

If the student gets the highest marks a page like figure 12 will appear.

## 8. CONCLUSION

The e-learning is not a part of technology only, but it is a portion used for transmitting the knowledge, expertise and the talent between the students, youngish and workers. The ELCS D system built to use all facilities of "Moodle" e-learning application. That serve all the students of computer science departments. The Learners can access to the thousands and millions of the science modules. Several of Web pages are simple text and drawings , but the rest might contain a imitation or multimedia. In the most fields the e-learning has turn into the default course to supply education. There are four steer of e-learning. The 1<sup>st</sup> secret is taught the need of about the way of learning to be near of natural learn. The 2<sup>nd</sup> secret is to know clearly the aim of learning. The 3<sup>rd</sup> secret based on the first two . It is concentrate on right aim . The end secret is in the experiment of strength.

## 10. REFERENCES

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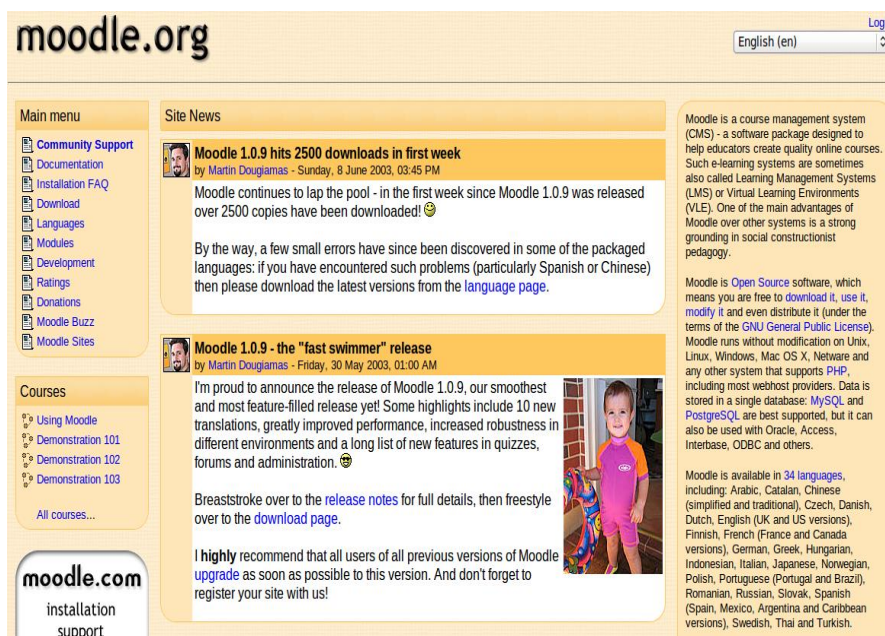


Figure 1: represent the Web site of "MOODLE"



Figure 2. shows the front page

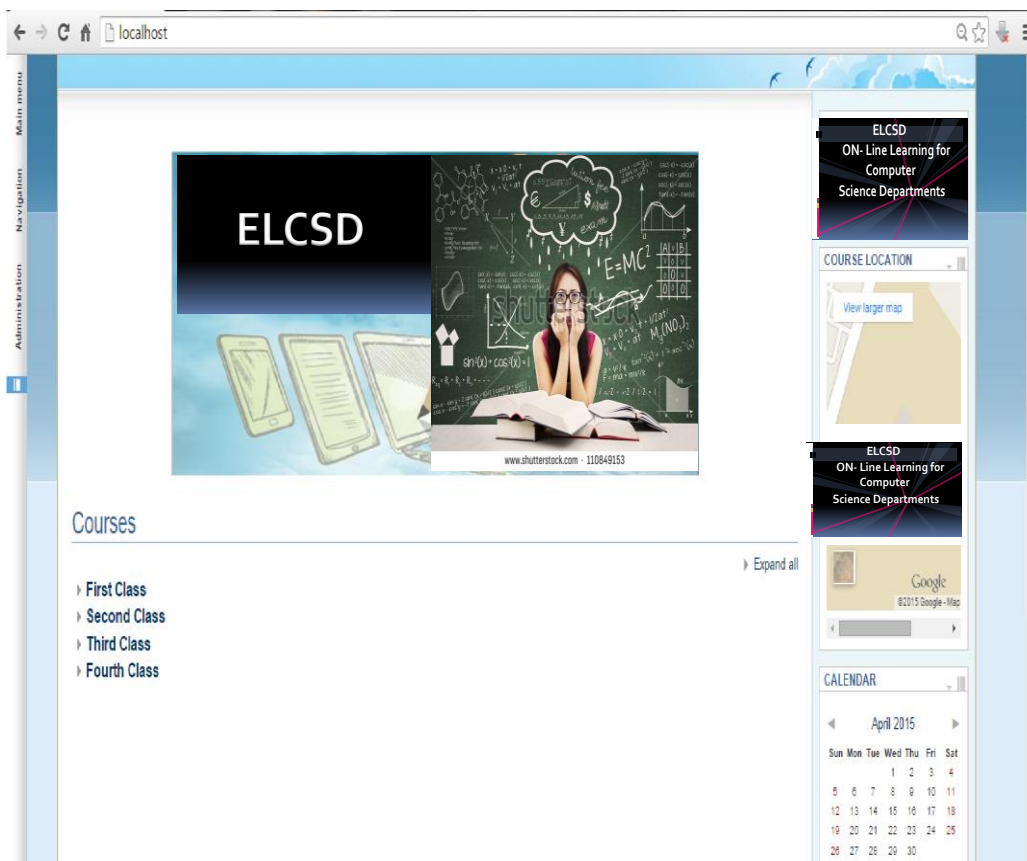


Figure 3. Represent the Home Page of ELCSD

## Courses

**First Class**

- Introduction to Programming
- Computer Organization
- Mathematical Foundations
- Concrete Maths & Graph Theory
- Database Management System Semester

**Second Class**

- Numerical Methods
- Data Structures & Algorithms
- Low-level Programming
- Operating Systems
- Object Oriented Programming
- Science of Programming

**Third Class**

- Design & Analysis of Algorithms
- Theoretical Computer Science
- Computer Networks
- Systems Programming

**Forth Class**

- Distributed computing
- Computer Graphics
- Modelling and Simulation
- Operations Research
- Software Engineering
- Elective

The screenshot shows a web application interface. On the left, there is a list of courses categorized by class level (First, Second, Third, and Forth). The main area is a large empty table with a header row containing '+ Add an activity or resource' and a 'Collapse all' button. On the right, there is a sidebar with several widgets: a search bar, a calendar for April 2015, a login section, an online users section showing '0' users, and an 'Add a block' section.

Figure 4. courses and syllabus for each lesson

The screenshot shows the login page for ELCSD. The page has a blue header with the ELCSD logo and a navigation menu. The main content area is white and contains a 'Log in' section. There are two input fields for 'Username' (with 'admin' entered) and 'Password' (with masked characters). Below these fields are a 'Remember username' checkbox and a 'Log in' button. There are also links for 'Forgotten your username or password?' and 'Log in as a guest'. A message at the bottom states 'Some courses may allow guest access'.

Figure 5. Login Page

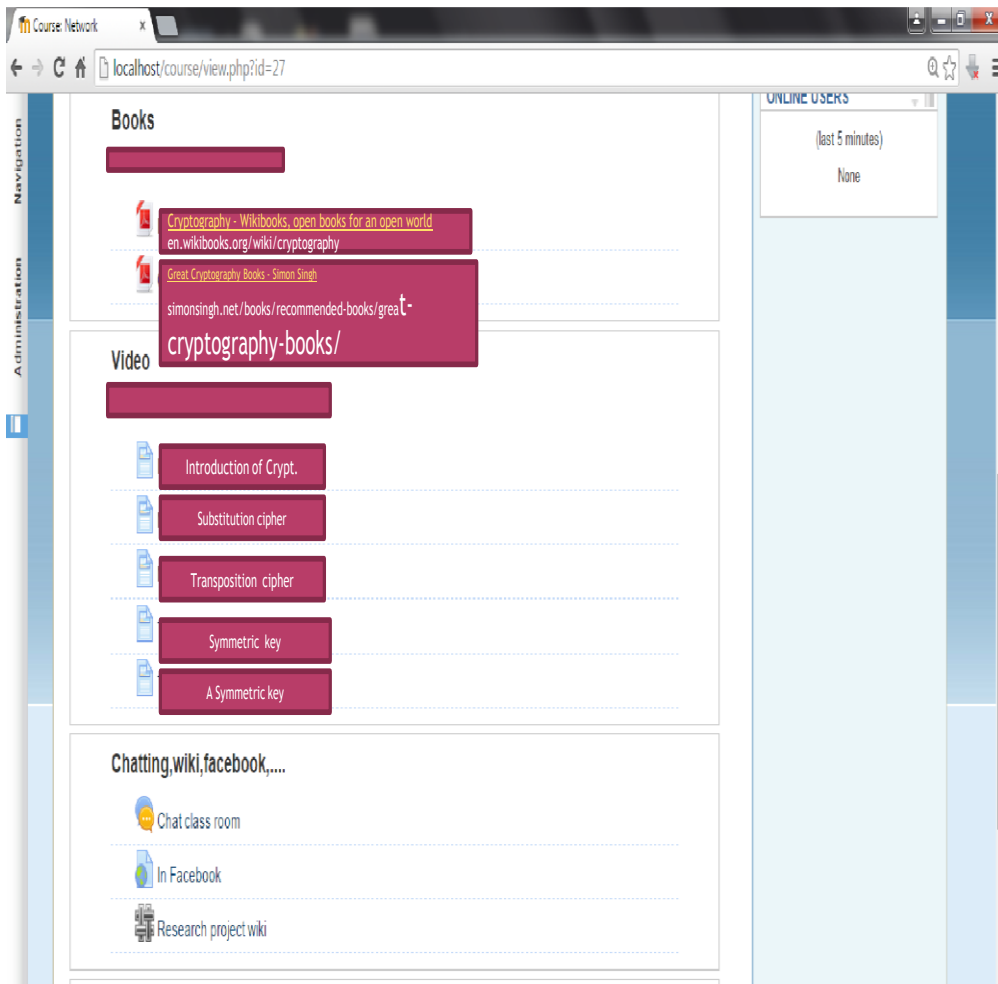


Figure 6: course page

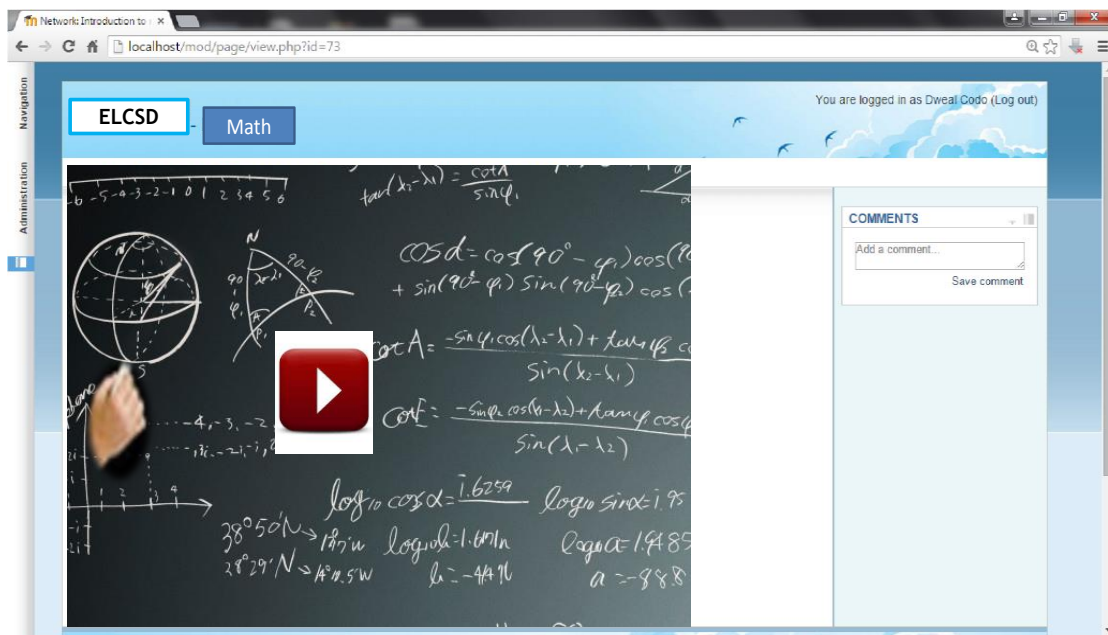


Figure 7. Video Page

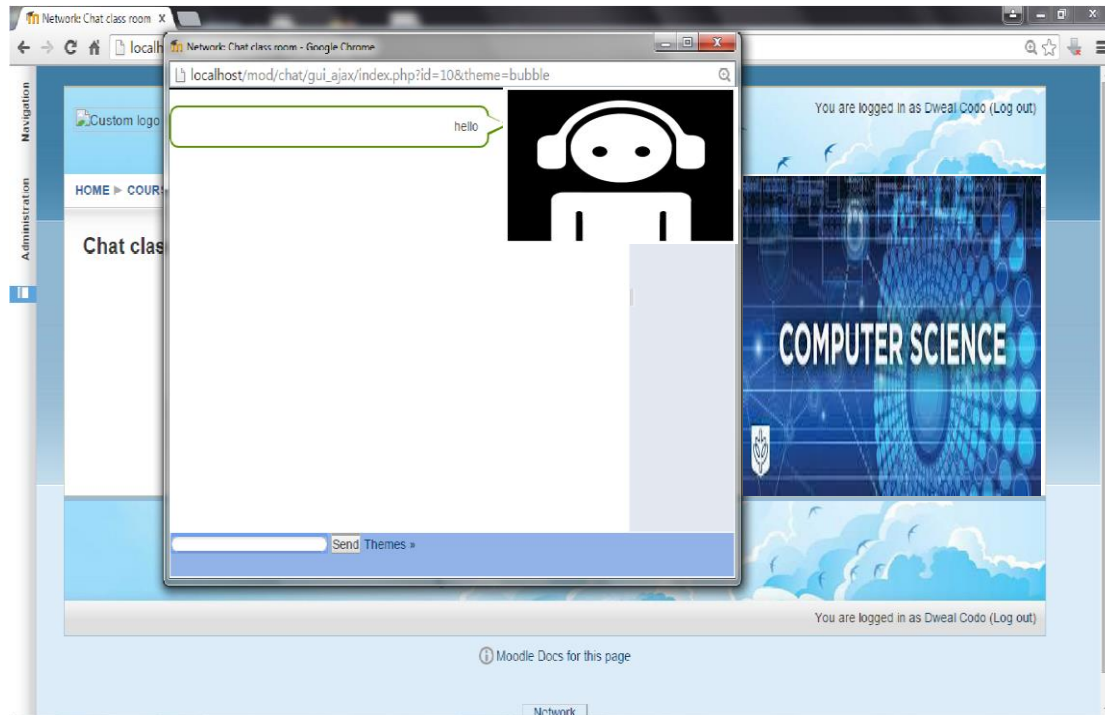


Figure 8. Chat Room



Figure 9. in "FaceBook"



The screenshot shows a web browser window with the URL `localhost/mod/quiz/attempt.php?attempt=5`. The page content includes a navigation menu at the top: HOME > COURSES > FOURTH CLASS > SOFTWARE ENGINEERING ADVANCE > EXAM > QUIZ IN SOFTWARE ENGINEERING > PREVIEW. The main heading is 'Multiple Choice Questions (Mcqs) → COMPUTER COMPONENTS Chapter # 2'. Below this, there are nine multiple-choice questions. A 'QUIZ NAVIGATION' sidebar on the right shows buttons for questions 1 through 10, with 'Finish attempt...' and 'Start a new preview' options. A large watermark 'ADAMJEECOACHING.BLOGSPOT.COM' is visible across the page.

**Multiple Choice Questions (Mcqs)**  
**→ COMPUTER COMPONENTS Chapter # 2**

- CPU stands for \_\_\_\_\_.**  
 a. Controlling Power Unit  
 b. Central Processing Unit  
 c. Central Processor Unit  
 d. None of above
- There are \_\_\_\_\_ typical component of CPU, namely \_\_\_\_\_.**  
 a. Two, Arithmetic and logical unit and Control unit  
 b. Three, ALU, CU and External storage  
 c. Two, Arithmetic and logical unit and memory.  
 d. None of above
- Bus is a set of \_\_\_\_\_ that is used as a communication path.**  
 a. Wires  
 b. Processor  
 c. Register  
 d. None of above
- There are basically register.**  
 a. Fourteen  
 b. Eight  
 c. Sixty five  
 d. None of above
- There are \_\_\_\_\_ buses, namely \_\_\_\_\_.**  
 a. Two, Control bus, connecting bus  
 b. Three, Address bus, data bus and Control bus  
 c. Three, Address bus, data bus and communication bus  
 d. None of above
- A port or interface that can be used for communication, in which only 1 bit it transmitted at a time is called \_\_\_\_\_.**  
 a. Serial Port  
 b. Parallel port  
 c. Serial and parallel both transmit 1 bit  
 d. None of above
- Which port is reliable \_\_\_\_\_.**  
 a. Serial  
 b. Parallel  
 c. Both are equal reliable  
 d. None of above
- Arithmetic, logic unit of a computer system perform:**  
 a. Logical decision  
 b. Arithmetical and Logical Functions  
 c. Simple Mathematical Calculation  
 d. Arithmetic Calculations
- The type of memory, which is permanent and retains data even the computer is turned off.**  
 a. RAM  
 b. Primary Memory  
 c. ROM  
 d. External Memory

Figure 10 Represent Exam

The screenshot shows a web browser window with the URL `localhost/mod/quiz/review.php?attempt=6`. The page title is 'IBPS COMPUTER KNOWLEDGE PAPERS WITH ANSWERS' and the sub-title is 'COMPUTER KNOWLEDGE PAPER - 1'. The page contains a list of 19 multiple-choice questions. A small image of a classroom is visible on the right side of the page.

**IBPS COMPUTER KNOWLEDGE PAPERS WITH ANSWERS**  
**COMPUTER KNOWLEDGE PAPER - 1**

- The process by which computers manipulate data into information is called  
 1) Programming 2) Processing 3) use conditions with operators such as AND, OR and NOT  
 3) Storing 4) Organising 4) include addition, subtraction, multiplication division  
 5) None of these
- Errors in a computer program are referred to as  
 1) Bugs 2) Mistakes 3) Item overlooked  
 4) Blunders 5) None
- A computer's hard disk is  
 1) an arithmetic and logical unit  
 2) computer software  
 3) an operating system  
 4) computer hardware 5) None of these
- A compiler is used to translate a program written in 1) a low level language 2) computer software  
 3) assembly language 4) machine language  
 5) None of these
- In programming, you use the following keys  
 1) Arrow keys 2) Function keys  
 3) Alpha keys 4) page up & page down keys  
 5) None of these
- Nibble describes a combination of  
 1) 5 bits 2) 6 bits 3) 7 bits 4) 4 bits 5) None
- A byte consists of  
 1) 9 bits 2) 8 bits 3) 7 bits 4) 4 bits 5) None
- Memory in a PC is addressable through  
 1) bits 2) Byte 3) Nibble 4) All 5) None
- The resolution of a monitor is measured in  
 1) Megabits 2) Hz  
 3) Dots per inch(DPI) 4) inches (diagonal)  
 5) None of these
- Windows and Macintosh computers  
 1) are both manufactured by Motorola  
 2) both use Intel Microprocessors  
 3) both use the same operating system  
 4) are not compatible 5) None of these
- Arithmetic Operations  
 1) involve matching one data item to another determine if the first item is greater than, equal to, or less than the other item  
 2) sort data items according to standard, predefined criteria in ascending order or descending order
- \_\_\_\_\_ software allows users to perform calculations on rows and columns of data  
 1) word processing 2) Presentation graphics  
 3) Database Management systems  
 4) Electronic Spreadsheet 5) None of these
- A \_\_\_\_\_ represents approximately one billion memory 13 locations.  
 1) kilobyte 2) megabyte 3) gigabyte 4) terabyte 5) None
- \_\_\_\_\_ cells involves creating a single cell by two or more selected cells...  
 1) Formatting 2) Merging  
 3) Embedding 4) Splitting 5) None
- A data warehouse  
 1) can be updated by the end users  
 2) contains numerous naming conventions and formats 3) is organised around important subject areas 4) contains only current data  
 5) None of these
- \_\_\_\_\_ servers store and manage files for network users.  
 1) Authentication 2) Main 3) Web 4) File  
 5) None of these
- All of the following are examples of real security privacy risks, except  
 1) hackers 2) spam 3) viruses 4) identity theft  
 5) None of these
- An output device that uses words or messages recorded on a magnetic medium to produce audio response is  
 1) Magnetic tape 2) Voice response unit  
 3) voice recognition unit 4) Voice band  
 5) None of these
- Which of the following will happen when data is entered into a memory location?  
 1) It will be added to the content of the location 2) It will change the address of the memory location 3) It will erase the previous content.  
 4) It will not be fruitful if there is already some data at the same location  
 5) None of these

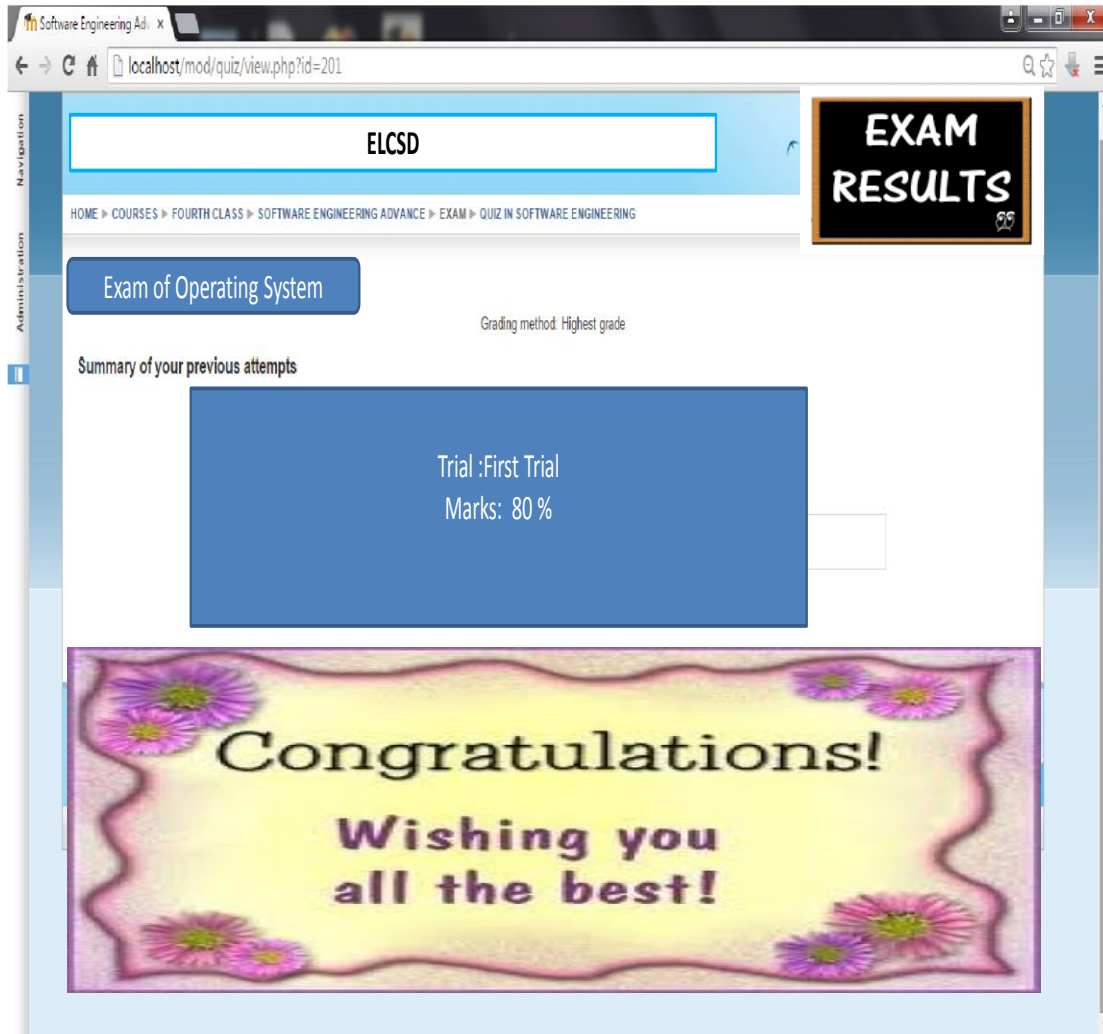


Figure 12. Highest marks

## التعلم عبر الإنترنت لأقسام علوم الحاسبات

د. آن زكي / الكلية التقنية كركوك

### الخلاصة

التعلم الإلكتروني في جوهره يعني وجود جهاز كمبيوتر يستند إلى أداة تعليمية أو نظام و يمكنك من المعرفة في أي مكان وفي أي وقت. إن تقدم التكنولوجيا كثيرا في الفجوة الجغرافية أدت إلى استخدام الأدوات التي تجعلك تشعر كما لو كنت داخل الفصول الدراسية.

يقدم التعلم الإلكتروني القدرة على تبادل المواد في عدة صيغ مثل الفيديو وعرض الشرائح، ملفات word وملفات PDF, إجراء ندوات والتواصل مع الأساتذة عبر الدردشة والرسائل المحافل هو أيضا خيارا متاحا للمستخدمين.

تقدم هذه الورقة فكرة نظام التعلم الإلكتروني القائم على قسم علوم الحاسب من خلال ذلك سرد كافة الموضوعات المشتركة بين هذه الإدارات مع العديد من أنواع وسائل الإعلام كالتدريس الذي يقدم النص والصوت والصورة، والرسوم المتحركة، والفيديو، ويتضمن منتديات للنقاش، دردشة الغرف والمساحات ويكي، رسائل على الانترنت، المجالات. كما يمكن تقييمها على أساس مستمر من خلال الانترنت وغير متصل على أساس إجراء مسابقات الأنشطة التعاونية التي يمكن الاستفادة من بعض الأدوات الاتصالات التفاعلية.

التطبيق المستخدم في هذا التمثيل هو برنامج مودل. مودل هو حزمة مفتوحة المصدر على شبكة الإنترنت وهو من ضمن البرمجيات في نظام إدارة التعلم (نظام إدارة التعلم) لإنتاج دورات تعليمية وتدريبية على شبكة الإنترنت ضمن بيئة شبكة الإنترنت. ويطلق على نظام المعد ELCSO. وهذا ELCSO يستخدم لمساعدة المستخدمين والطلاب ويساهم في معرفة المفاهيم والاستعداد للاختبارات. معظم الدروس الفيديو لا تتجاوز 10 دقيقة أو أقل، لذلك يتم الحصول على المعلومات المطلوبة في شكل سريع وممتع.