PERIYAR UNIVERSITY
SALEM –636 011

PERIYAR INSTITUTE OF DISTANCE EDUCATION (PRIDE)

DIPLOMA IN COMPUTER AIDED DESIGN

REGULATIONS AND SYLLABUS

(Effective from the academic year 2007-2008 and thereafter)
0.1. ELIGIBILITY:

Candidate seeking admissions for diploma course have to passed their Higher Secondary Examination conducted by The Govt. of Tamil Nadu or any other States. They shall also satisfy the conditions regarding age and Physical Fitness, as may be the Syndicate of Periyar University.

0.2. DURATION:

The Course for the Diploma in Computer Aided Design shall consist of one academic year.

0.3. ELIGIBILITY FOR THE DIPLOMA:

A candidate shall be eligible for the Diploma in Computer Aided Design, if he/she has satisfactory undergone the prescribed course of study for a period of not less than one year and passed the examinations in all the papers.

0.4. COURSE OF STUDY:

The course of study shall comprise instruction, seminars, practical in the subjects according to syllabus and references as prescribed.

0.5. EXAMINATIONS:

The examinations in theory subjects and Practical, which shall be conducted by the University at the end of the year.
DIPLOMA IN COMPUTER AIDED DESIGN

Scheme of Examinations:

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Title of the Paper</th>
<th>Exam hrs.</th>
<th>Max.Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAPER I</td>
<td>Digital computer Fundamentals and GUI Applications</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>PAPER II</td>
<td>Computer Aided Design</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>PAPER III</td>
<td>Principles of Web Design</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>PAPER IV</td>
<td>Photoshop and Flash</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>PAPER V</td>
<td>Practical-I (GUI Applications)</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>PAPER VI</td>
<td>Practical-II (Photoshop and Flash)</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>

0.6 Passing Minimum:

Candidates shall be declared to have passed the examination in a theory/practical of study only if he/she scores not less than 40 marks out of 100.

Successful candidates passing in all the papers and securing I) 60 percent and above shall be declared to have passed the examination in First Class (II) 50 percent and above but below 60% shall be declared to have passed the examination in 2nd class.
QUESTION PAPER PATTERN

THEORY

Time: 3 Hours
Max. Marks - 100

PART A
Answer all the Questions. 10 x 2 = 20

(Two Question from each unit).

PART B
Answer all the Questions. 5 x 4 = 20

(One Question from each unit with internal choice).

PART C
Answer all the Questions. 5 x 12 = 60

(One Question from each unit with internal choice).
PRACTICAL

Time: 3 Hours

Max.Marks - 100

Record: 20 Marks

Practical: 80 Marks

For Each practical Question the marks should awarded as follows:

i) Flowchart - 20%

ii) Writing the program in the main answer book - 30%

iii) List, test and debug the program - 30%

iv) Printing the correct output - 20%

(Marks may be proportionately reduced for the errors committed in each of the above)

Practical - I:

One Question from GUI Applications (either or type)

Practical – II:

One Question from Photoshop and flash (either or type)
UNIT – I:


UNIT – II:

Boolean Algebra and Gate Networks: Fundamental concepts of Boolean Algebra – Logical Multiplication - AND Gates and OR Gates - Complementation and Inverters - Evaluation of Logical Expressions - Evaluation of an Expression containing parentheses - Basic Laws of Boolean Algebra - Simplification of expressions - De Morgan’s theorems - Basic Duality of Boolean Algebra - Derivation of a Boolean Expression - Interconnecting Gates-Sum of products and products of sums - Derivation of products of sums expressions - Derivation of three Input variable

UNIT - III:


UNIT – IV:


UNIT-V:

TEXTBOOKS

1. “Fundamentals of Computer Science and Communication Engineering”  
   Alexis Leon, Mathews Leon,  
   Vikas Publishing House,  
   New Delhi, 1998  
   (Unit I & III).

   Thomas C.Bartee,  
   T.M.H, New Delhi,  

3. “PC Software for WINDOWS Made Simple”  
   R.K.Taxali,  
   T.M.H, New Delhi, 1998 (Unit – IV & V).
PERIYAR UNIVERSITY, SALEM – 11
PERIYAR INSTITUTE OF DISTANCE EDUCATION (PRIDE)
DIPLOMA IN COMPUTER AIDED DESIGN
PAPER II : Computer Aided Design

Unit I:

Introduction- CAD/CAM defined- the produced cycle and CAD /CAM - automation and CAD/CAM- Computer Technology: Introduction-Central Processing unit-Types of memory-input output-data representation-computer programming languages-operating the computer system.

Unit II:

Computer fundamentals of CAD-introduction- the design process-the application of computers for design –creating the manufacturing data base-benefits of CAD-hardware in CAD-the design workstation-the graphics terminal-operation input devices-plotter and other o/p devices- secondary storage.

Unit III:


Unit IV:

Geometric modeling-requirements of geometric modeling-geometric models-geometric construction methods-other modeling methods- cave representation-desirable modeling facilities-rapid prototyping CAD standards-standardization in graphics-graphics kernel system-other graphics standards- exchange of modeling data.
Unit V:

Introduction to a drafting system: basic facilities in AutoCAD-basic geometric commands-layers-display control commands-editing a drawing dimensioning introduction to a modeling system: general facilities of unigraphics –example of solid modeling finite element analysis –finite element modeling-FEM software.

TEXT BOOK:

1  CAD/CAM Computer Aided Design and Manufacturing [ units I , II ]
   Mikell P.Groover. Emory W. Zimmers, Jr

2  CAD/CAM Principles and Applications [ Units III, IV, V]
   P.N .RAO
PERIYAR UNIVERSITY, SALEM – 11
PERIYAR INSTITUTE OF DISTANCE EDUCATION (PRIDE)
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PAPER III : Principles of web design

Unit I:

Unit II:

Unit III:
Creating page Templates-Understanding table basics-Table pointers Creating page template-Template examples-Web typography.

Unit IV:

Unit V:
HTML Frames-Understanding Frames-Frames syntax-Targeting in frameset-Planning frame content-publishing and maintaining web site.

TEXT BOOKS:

REFERENCE BOOKS:
PERIYAR UNIVERSITY, SALEM – 11
PERIYAR INSTITUTE OF DISTANCE EDUCATION (PRIDE)
DIPLOMA IN COMPUTER AIDED DESIGN

PAPER IV : Photoshop and Flash

Unit – I:
Photoshop Fundamentals-Examining the Photoshop Environment-Getting to know the tool Palette- Getting Started and Finishing up-getting it on paper viewing and navigating Images-specifying size and Resolution – Choosing color modes and File Formats using and managing color.

Unit – II:

Unit- III:

Unit – IV:
Flash: Introducing Flash- Customizing Flash to suit your workflow- Finding your way with the movie Explorer – Flash and Generator –Importing, Using and Optimizing graphics.
Unit – V:


TEXT BOOK:

1. PHOTOSHOP 7 - The Ultimate Reference by Barbara Obermeier with David D. Busch.

2. INSIDE FLASH BY Jody Keating Fig Leaf Software.
I. MS-WORD:

1. a. Starting MS-WORD, Creating, Saving, Printing (with options) Closing and Exiting.
   

2. a. Create a document , Save it and edit the document as follows :
   i) Find and Replace options.
   ii) Cut, Copy and Paste options.
   iii) Undo and Redo options.

   b. Format the document:
   i) Using Bold, Underline and Italic.
      Chance Character size using the font dialog box.
   ii) Formatting paragraph: Center, Left aligns & Right aligns.
   iii) Changing paragraph and line spacing, Using Bullets and Numbering in paragraphs.
   v) Creating Hanging paragraphs.

4. Creating Tables in a document, Selecting Rows & Columns sort the record by using tables, format painter and Auto format.

5. Drawing flow chart using drawing toolbar, inserting picture and setting frames.

6. Mail Merge in word (Creating main document, data source, inserting merge fields and viewing merge data, viewing and printing merged letter, using mail merge to print envelope creating mailing labels).

II. MS-EXCEL:
1.a. Create a work sheet, moving/copying/inserting/deleting rows and Columns. (Usage of cut, paste commands, copying a single cell, copying a range of data, filling up a cell. Undo command, Inserting a row, column, Deleting rows and columns.)

b. Formatting work sheets
   1. Bold style
   2. Italic style
   3. Font size changing
   4. Formatting numbers (Auto fill, Selection command, currency format, Currency syllabus)
   5. Specifying percentage (%) scientific notations.
   6. Drawing border around cells.
   7. Printing a work sheet (Print preview, Margin setting, Header, Footer)

2. a. Data base concept: Database, Record field and field name
Creating and sorting a database and maintaining a database
(Data form)
b. Using auto filter, advanced filter.

3. Creating charts
   i). Using chart wizard (five steps)
   ii). Changing the chart type (Pie, Bar, Line)
   iii). Inserting titles for the Axes x, y
   iv). Changing colors
   v). Printing charts.

4. a. Using date, time and math functions:
   i). Entering current date
   ii). Using date arithmetic (adding and subtracting Dates)
   iii). Date functions (day, month, year)
   iv). Using time functions (hour, minute, second)

b. Math functions
   i). SUM, COUNT, AVERAGE
   ii). MAX, MIN
   iii). STDEV, VAR
   iv). ABS, EXP, INT
   v). LOG 10 and LOG
   vi). MOD, ROUND, SORT
   vii). Using auto sum

c. Logical and financial functions
   i). Logical (IF/AND/OR/NOT)
   ii). Financial (PMT, FV, NPER, RATE)
5. i). Creating and running a Macro
   ii). Assigning button to a defined Macro
   iii). Editing a Macro

III. MS – POWER POINT:

1. Creating a presentation using auto content wizard.
2. Different views in power point presentation.
3. Setting animation effects/grouping/ungrouping/cropping power/point objects.
5. Creating an organization chart in Power Point.
Software: Photoshop

1. Product Advertisement (For automobile products with the animate picture and necessary features).
2. Editing the Images.
3. Design a Greeting card.
4. Design Invitation.

Software: Flash

1. Simple Animation.
2. Tweened animation.
3. Creating movies.