PERIYAR UNIVERSITY
SALEM –636 011

PERIYAR INSTITUTE OF DISTANCE EDUCATION (PRIDE)

DIPLOMA IN COMPUTER AIDED MANUFACTURING
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 TamilNadu 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 Manufacturing shall consist of one academic year.

0.3. ELIGIBILITY FOR THE DIPLOMA:

A candidate shall be eligible for the Diploma in Computer Aided Manufacturing, 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 Manufacturing

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 Manufacturing</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>PAPER III</td>
<td>Computer Graphics</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>
</tbody>
</table>

Total: 600

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:

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).
2. ”Digital Computer Fundamentals”
   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)
Unit I:


Unit II:


Unit III:


Unit IV:

Role of information system-information requirements of manufacturing – group technology and computer aided process planning- production planning and control.

Unit V:

Integration of manufacturing systems-communications-material handling systems- FMS and CIM-CAD/CAM implementation.
TEXT BOOK:

1. CAD/CAM Principles and Applications [Units I, II, III, IV, V]
   P.N. Rao.

2. CAD/CAM Computer Aided Design and Manufacturing [unit V]
   Mikell P. Groover, Emory W. Zimmers, Jr
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PAPER III : Computer Graphics

Unit I:


Unit II:


Unit III:

Segments creation- deletion- image transformation segment manipulation- raster techniques.

Unit IV:


Unit V:

Light color and shading, illumination-curves and fractals: curve generation- interpolation- interpolating algorithms-splines and corners.

TEXT BOOKS:

REFERENCE BOOKS:


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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)

V. 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/poind objects.
5. Creating an organization chart in Power Point.
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PAPER VI : Practical II (Photoshop and Flash)

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.