University of Pune
MCA (Com) Sem III : Visual Programming(402)

Course Objective : This course enables students to understand visual programming concepts and its use Software development .

Chapter No	Name of topic in Chapter	Total No. of lectures	Reference Book
1	Introduction to Visual Programming	2	B1
2	Overview Of Windows Programming • Brief history of windows • The use's perspective • GUI • Consistent user interface • Multitasking advantage • Memory management • Device independent graphics interface • Traditional MS-DOS program model & window program model • Programming in Dos vs programming in windows • Win 32 API • Object –Oriented programming • Message driven architecture	4	B1,B2
3	First Windows Application • Hungarian Notation • Structure of windows application • First windows program["The hello program] • Winmain() • Registering the window class • Creating the window • Displaying the window • Message loop • Window procedure • Processing the messages • Queued & nonqueued messages	4	B1,B2
4	The WM-Paint Message • Painting with text • The WM-Paint message • Valid & Invalid Rectangles • An introduction of GDI	4	B1,B2

	• The device Context(DC) • Getting DC-method1 • Getting DC-method2 • Release DC() • Windows RGB()macro		
5	GDI • The device context • Getting handle to the device context • The device context attributes • Saving device context • Mapping mode • Device co-ordinate systems	5	B1,B2
6	Drawing Graphics & Bitmaps • Drawing points • Drawin`g lines • Creating, Selecting& Deleting pens • Filling in the Gaps • Drawing modes • Drawing filled areas • Bounding box • Polygon function & polygon filling mode • Brushing the interior • Brushes & bitmaps • Brush alignment • Rectangles • Regions • Bitmaps • Device independent bitmap(DIB) • The DIB file • Displaying a DIB • Creating a DIB • GUI Bitmap object • Bitmap Format • Getting bitmap on the display	6	B1,B2
7	Reading Input • The keyboard • Keyboard driver • Keystrokes & characters • Keystrokes message • The lparam variable • Virtual key codes (wparam variable) • Character messages • The caret • Working with character set • The mouse	8	B1, B2

	• Mouse basics • Client area mouse messages • Mouse double keys • Non client area mouse messages • Changing the mouse curser • Capturing the mouse • Timer basics • Using timer [method 1,2,3] 4 B1 211 & 273		
8	Resources • Icons • Getting a handle on icons • Using icons in your program • Cursor • Using alternate cursors • Moving cursor with the keyboard • Bitmaps • Character String Menus & Accelerators • Menu Structure • Menu template • Referencing the menu in your program • Menu & messages • Defining a menu dynamically • Floating popup menus • Changing the menu • Using bitmap in menu • Using system menu	6	B1, B2
9	Window Controls • Child window controls • Button • Static • Edit • List Box • Scroll Bar	6	B1 ,B2
10	ODBC • ODBC standards • ODBC elements • Environment ,connection & statement • ODBC Administration • SQL statement processing in ODBC	5	B3

Reference Books:
B1)Programming windows by Charles Petzold
B2)Windows programming primer plus by Jim conger.
B3)Microsoft ODBC programmer reference guide.