DEPARTMENT OF INFORMATION TECHNOLOGY				*CLASS: II B.Sc.* **Information Technology**				
Sem	**Course Type**	**Course Code**	**Course Title**	**Credits**	**Contact Hours/week**	**CIA**	**Ext**	**Total**
IV	SBE-II	20U4FSM2	Visual Programming	2	2	25	75	100

Nature of Course				
Knowledge and skill	✓		Employability oriented	
Skill oriented			Entrepreneurship oriented	

Course Objectives

1. To acquire knowledge on the basics of visual programming.
2. To impart the knowledge of Functions and subroutines.
3. Be familiar with the visual basic controls.
4. To learn the concept of Decision making and looping.
5. To understand the concepts of Menus and MDI forms.

UNIT	CONTENT	Hrs	K-Level	CLO
I	**Introduction:**Overview of the IDE - Managing forms in Visual Basic - The Visual Basic Language: Declaring Constants, Variables – Selecting variable types-Converting between data types - setting variable scope-verifying data types – declaring arrays & Dynamic arrays	**6**	**Up to K2**	**1**
II	**Functions and Subroutines:** Declaring Subroutines – Declaring functions – Handling strings – Converting strings to numbers and back again – Handling operators & operator precedence - Handling higher math- Handling Dates and Times.	**6**	**Up to K3**	**2**
III	**Controls:** Text Boxes and Rich text Boxes- command buttons – checkboxes & option buttons – list boxes and combo boxes – picture boxes and image controls – The timer control – The frame control – the label control – the shape control.	**6**	**Up to K4**	**3**
IV	**Decision Making and Looping and Toolbars:** Using if-else statements- Using select case – Looping. Toolbars, status bars, progress bars and coolbars.	**6**	**Up to K4**	**4**
V	**Menus :** Visual Basic Menus: adding a menu to a form – modifying & deleting menu items – creating sub menus – using Visual Basic predefined menus-Handling MDI forms & MDI child menus-creating & displaying popup menus – Adding & deleting menu items at runtime.	**6**	**Up to K3**	**5**

Book for Study

1. Visual Basic 6 Programming Black Book by Steven Holzner 16th Reprint Edition -Dreamtech Press Publications.

Chapters:

Unit I: 2,3
Unit II: 3
Unit III: 6, 7, 8, 10, 13, 14
Unit IV: 3, 4
Unit V: 5

Books for Reference

1. Mastering Visual Basic 6 by Petroutsos.E, Fifth edition, BPB Publications
2. Visual Basic 6.0 – The Complete reference by Jerke .N, Nineteenth Reprint 2004, Tata-McGraw Hill Publishing.
3. VB 6 from the Ground up by Gary Cornell, Second Reprint 1999-Tata-McGraw Hill Private Ltd.

Web Resources

1. https://docs.microsoft.com/en-us/visualstudio/get-started/visual-basic
2. https://www.vbtutor.net/vbtutor.html
3. https://www.tutlane.com/tutorial/visual-basic

Rationale for Nature of the course

- Helps to develop GUI based applications and to connect them to handler functions provided by the application.

Activity on Knowledge and Skill Development

- Assignment
- Quiz
- Group Discussion

Pedagogy

Chalk and talk, Materials, PPT, Assignment, Seminar, Problem solving, Group discussion, Interaction and Demonstration.

Course Designer(s) Name

1. Mrs. K. Imaya
2. Mrs.S.Sasikala

Lesson Plan

Unit	Topics	Hours	Mode
I	Overview of the IDE - Managing forms in Visual Basic - The Visual Basic Language. Declaring Constants, Variables – Selecting variable types-Converting between data types - setting variable scope- verifying data types – declaring arrays & Dynamic arrays	3 3	Lecture Lecture & GD
II	Declaring Subroutines – Declaring functions – Handling strings – Converting strings to numbers and back again. Handling operators & operator precedence - Handling higher math-Handling Dates and Times.	3 3	Lecture Lecture
III	Text Boxes and Rich text Boxes- command buttons – checkboxes & option buttons – list boxes and combo boxes. Picture boxes and image controls – The timer control – The frame control – the label control – the shape control.	3 3	Lecture Quiz& Lecture
IV	Using if-else statements- Using select case –Looping. Toolbars, status bars, progress bars and coolbars.	3 3	Lecture Lecture
V	Visual Basic Menus: adding a menu to a form – modifying & deleting menu items – creating sub menus – using Visual Basic predefined menus. Handling MDI forms & MDI child menus-creating & displaying popup menus – Adding & deleting menu items at runtime.	3 3	Lecture, PPT Assignment

Course Learning Outcomes

On the successful completion of the course, students will be able to

CLOs	Course Learning Outcomes	K - Levels
CLO 1	Categorize the types of variables, Constants, data types, and arrays.	**Up to K2**
CLO 2	Determine the concept of Subroutines and Functions.	**Up to K3**
CLO 3	Classify the various types of Controls.	**Up to K4**
CLO 4	Discuss the concept of Decision making and Looping and Toolbars.	**Up to K4**
CLO 5	Understand the concept of Menus and MDI Forms	**Up to K3**

Mapping of CLOs with PSOs

CLOs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CLO 1	**1**	**1**	**1**	**-**	**1**	**2**
CLO 2	**2**	**2**	**1**	**-**	**2**	**3**
CLO 3	**2**	**3**	**2**	**2**	**1**	**2**
CLO 4	**2**	**2**	**2**	**2**	**2**	**1**
CLO 5	**3**	**1**	**3**	**1**	**3**	**3**

(3 – Advanced Application, 2 – Intermediate Level, 1- Basic Level)

Mapping of CLOs with POs

CLOs/POs	PO1	PO2	PO3	PO4	PO5
CLO 1	**3**	**3**	**2**	**1**	**1**
CLO 2	**3**	**1**	**-**	**3**	**1**
CLO 3	**3**	**3**	**-**	**2**	**2**
CLO 4	**3**	**2**	**-**	**2**	**2**
CLO 5	**3**	**2**	**-**	**3**	**3**

(3 – Advanced Application, 2 – Intermediate Level, 1- Basic Level)

Learning Outcome Based Education & Assessment (LOBE)
Formative Exam – Blue Print – Visual Programming (CIA I & II)
Articulation Mapping - K Levels with Courses Learning Outcomes (CLOs)

Internal	CLOs	K- Level	Section A		Section B		Section C (Either/or Choice)	Section D (Open Choice)
			MCQs		Short Answers			
			No. of Questions	K- Level	No. of Questions	K- Level		
CIA I	CLO 1	Up to K2	2	K1& K2	1	K2	2(K2&K2)	1(K2)
	CLO 2	Up to K3	2	K1& K2	2	K1	2(K3&K3)	2(K3)
CIA II	CLO 3	Up to K4	2	K1 & K2	1	K2	2(K1&K1)	1(K4)
	CLO 4	Up to K4	2	K1 & K2	2	K1	2(K4&K4)	2(K3)
Question Pattern (CIA I & II)	No. of Questions to be asked		4		3		4	3
	No. of Questions to be answered		4		3		2	2
	Marks for each question		1		2		5	10
	Total Marks for each section		**4**		**6**		**10**	**20**

- *CLO5 will be allotted for individual Assignment which carries five marks as part of CIA component.*

Distribution of Section-wise Marks with K Levels *

K Levels	Section A (No Choice)	Section B (No Choice)	Section C (Either/or)	Section D (Open Choice)	**Total Marks**	% of Marks without choice	Consolidated %
K1	2	4	-	-	**6**	10.00	**50**
K2	2	2	10	10	**24**	40.00	
K3	-	-	10	20	**30**	50.00	**50**
K4	-	-	-	-	**-**	-	**-**
Total Marks	**4**	**6**	**20**	**30**	**60**	**100.00**	**100%**
K Levels	Section A (No Choice)	Section B (No Choice)	Section C (Either/or)	Section D (Open Choice)	**Total Marks**	% of Marks without choice	Consolidated
K1	2	4	10	-	**16**	26.67	**34**
K2	2	2	-	-	**4**	6.67	
K3	-	-	-	20	**20**	33.33	**33**
K4	-	-	10	10	**20**	33.33	**33**
Total Marks	**4**	**6**	**20**	**30**	**60**	**100.00**	**100%**

Learning Outcome Based Education & Assessment (LOBE)

Blue Print for Summative Examination – Visual Programming
Articulation Mapping – K Levels with Courses Learning Outcomes (CLOs)

SI.No	CLOs	K- Level	Section A		Section B		Section C (Either/or Choice)	Section D (Open Choice)
			MCQs		Short Answers			
			No. Of Questions	K - Level	No. Of Questions	K - Level		
1	CLO 1	Up to K2	2	K1 & K2	1	K1	2(K2&K2)	1(K2)
2	CLO 2	Up to K3	2	K1 & K2	1	K1	2(K3&K3)	1(K3)
3	CLO 3	Up to K4	2	K1 & K2	1	K2	2(K1&K1)	1(K4)
4	CLO 4	Up to K4	2	K1 & K2	1	K2	2(K4&K4)	1(K3)
5	CLO 5	Up to K3	2	K1 & K2	1	K2	2(K3&K3)	1(K3)
No. of Questions to be asked			10		5		10	5
No. of Questions to be answered			10		5		5	3
Marks for each question			1		2		5	10
Total Marks for each section			10		10		25	30

- K1 – Remembering and recalling facts with specific answers
- K2 – Basic understanding of facts and stating main ideas with general answers
- K3 – Application oriented – Solving Problems
- K4 – Examining, analysing, presentation and make inferences with evidences

Distribution of Section – wise Marks with K Levels

K Levels	Section A (No Choice)	Section B (No choice)	Section C (Either/or)	Section D (Open choice)	Total Marks	% of Marks without choice	Consolidated
K1	5	4	10	-	**19**	15.83	**42%**
K2	5	6	10	10	**31**	25.83	
K3	-	-	20	30	**50**	41.67	**42%**
K4	-	-	10	10	**20**	16.67	**16%**
Total Marks	10	10	50	50	**120**	100	**100%**