

**Shri Vaishnav Vidyapeeth Vishwavidyalaya**  
**Shri Vaishnav Institute Of Information Technology**  
**Choice Based Credit System (CBCS) in the light of NEP-2020**  
**B.Tech(CSE), B.Tech+MBA(CSE) and B.Tech+M.Tech(CSE)**  
**SEMESTER-VI(2021-2025)**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS602 N	DCC	Object Oriented Analysis and Design	60	20	20	30	20	3	0	2	4

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**COURSE OBJECTIVES:**

1. To learn the concept of Object Oriented Software Development Process
2. To get acquainted with UML Diagrams
3. To understand Object Oriented Analysis Processes

**COURSE OUTCOMES:**

1. Understand Object Oriented Software Development Process
2. Gain exposure to Object Oriented Methodologies & UML Diagrams
3. To apply Object Oriented Analysis Processes for projects

**SYLLABUS**

**UNIT-I**

**10 HOURS**

**Introduction:** About Object Oriented Technology, Development and OO Modeling History. Modeling Concepts: Modeling design Technique, Three models, Class Model, State model and Interaction model.

**UNIT-II**

**9 HOURS**

**Class Modeling:** Object and class concepts, link and association, Generalization and Inheritance, Advanced class modeling- aggregation, Abstract class meta data, constraints. State Modeling: Event, state, Transition and conditions, state diagram, state diagram behavior, concurrency, Relation of Class and State models. Interaction Modeling: Use case Models, sequence models, activity models

**UNIT-III**

**8 HOURS**

**Analysis and Design:** Development Life cycle, Development stages, Domain Analysis-Domain class model, domain state model, domain interaction model, Iterating and analysis. Application Interaction model, Application class model, Application state Model, Adding operation.

Chairperson  
Board of Studies  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Chairperson  
Faculty of Studies  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Controller of Examination  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Joint Registrar  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

**Shri Vaishnav Vidyapeeth Vishwavidyalaya**  
**Shri Vaishnav Institute Of Information Technology**  
**Choice Based Credit System (CBCS) in the light of NEP-2020**  
**B.Tech(CSE), B.Tech+MBA(CSE) and B.Tech+M.Tech(CSE)**  
**SEMESTER-VI(2021-2025)**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS602 N	DCC	Object Oriented Analysis and Design	60	20	20	30	20	3	0	2	4

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**UNIT-IV**

**7 HOURS**

**System Design:** Estimating Performance, Making a reuse plan, breaking system into sub systems identifying concurrency, allocation of subsystems, management of data storage, Handling Global resources, choosing a software control strategy, Handling boundary condition, common Architectural style.

**UNIT-V**

**8 HOURS**

**Class design:** Overview of class design, designing algorithms recursing downward, refactoring, design optimization, Adjustment of Inheritance, Rectification of Behavior.

**TEXT BOOKS:**

1. Michael Blaha and J. Rumbaugh, "Object oriented Modeling and design with UML", Pearson Education

**REFERENCES:**

1. Satzinger, Jackson and Burd, "Object oriented Analysis and design with the Unified Process", CENGAGE Learning.
2. O'Docherty, "Object Oriented Analysis and Design Understanding, System Development with UML2.0", Wiley India.

**LIST OF EXPERIMENTS**

1. How to write a Problem Statement
2. Perform the system analysis: Requirement analysis, SRS.
3. Perform the function oriented diagram: DFD and Structured chart.
4. Perform the user's view analysis: Use case diagram.

Chairperson  
Board of Studies  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Chairperson  
Faculty of Studies  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Controller of Examination  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Joint Registrar  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

**Shri Vaishnav Vidyapeeth Vishwavidyalaya**  
**Shri Vaishnav Institute Of Information Technology**  
**Choice Based Credit System (CBCS) in the light of NEP-2020**  
**B.Tech(CSE), B.Tech+MBA(CSE) and B.Tech+M.Tech(CSE)**  
**SEMESTER-VI(2021-2025)**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS602 N	DCC	Object Oriented Analysis and Design	60	20	20	30	20	3	0	2	4

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit.

\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

5. Draw the structural view diagram: Class diagram, object diagram.
6. Draw the behavioral view diagram: Sequence diagram, Collaboration diagram.
7. Draw the behavioral view diagram: State-chart diagram, Activity diagram.
8. Draw the implementation view diagram: Component diagram.
9. Draw the environmental view diagram: Deployment diagram.

Chairperson  
Board of Studies  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Chairperson  
Faculty of Studies  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Controller of Examination  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore

Joint Registrar  
Shri Vaishnav Vidyapeeth  
Vishwavidyalaya, Indore