St. Aloysius' College (Autonomous) Jabalpur

Part A :Introduction

Program: DIPLOMA	Class : BA	Sem:- III	Session :2023-2024
Subject:-	Computer Application		

1.	Course Code	**S2-COAP1T**	
2.	Course Title	Database Management System	
3.	Course Type(	Elective Course	
4.	Pre-requisite (If any)		
5.	Course Learning Outcomes (CLO)	On the completion of this course student will be able - • To understand database concepts, applications, structure, need and database terminologies. • To know about fundamentals of Relational Algebra and recovery & backup. • To gain skills to create logical design of databases, including the ER method and normalization approach. • To explore issues of transaction processing and concurrency control. • To acquire knowledge of back-end project management skills. • To get knowledge of Database and create own Database. • For implementation of different security features to secure the database.	
6.	Credit Value	Theory -3	
7.	Total Marks	Max. Marks: 40+60	Min. Passing Marks:35

Part B: Content Of the Course
Database Management System

Total No. of Lectures =45 (in hours per week):3-0-0

Unit	Topics	No. of Lectures
I	**Introduction**: Database system concepts, Data base system, Advantages of database systems; Data Architecture of data system: View/Schema, logical, conceptual and physical and their interrelationship, data dictionary, Data base administrator. Types of Data Models:- Relational, Hierarchical and Network Model their advantages and disadvantages.	12
ii	**Entity Relationship Model as a tool of conceptual design**: Entities &Entity set, Relationship & Relationship set, Attributes, Mapping Constraints, Keys, Entity- Relationship diagram (E-R diagram) : Strong & weak entities, Generalization, Specialization, Aggregation, Reducing ER diagram to tables.	11
III	Normalization and SQL concept :- Normalization: First, Second, Third & BCNF Normal Forms, Introduction to SQL,tuple, attribute, Data types, key constraints:- primary key, Candidate key, Integrity rules : Entity integrity, Referential integrity rule.SQL Commands:- , DDL, DML, DCL, TCL syntax and examples, select query with all the clauses. Like Predicate , Operator (Between, In , Not in)	11

IV	**Advance SQL**:- SQL join operations, Sub queries and correlated queries, SQL Functions. Constraints in SQL. Introduction to PL/SQL :- PL/SQL structure, Cursors, Triggers, Stored Procedures and functions.	11
	Part C: Learning Resources	

	Suggested Digital Platforms, Web links
	    1. https://www.greatlearning.in/academy/learn-for-free/courses/database-management-systems-dbms
	    2. https://www.learnvern.com/course/database-management-tutorial-hindi
	    3. httgs://www.geeksforgeeks.org/dbms/
	    4. https://www.tutorialspoint.com/database tutorials.htm
	    5. https://www.iavatpoint.com/dbms-tutorial
	    6. https://beginnersbook.com/2015/04/dbms-tutorial
	    7. https://www.studytonight.com/dbms/
	    8. https://www.w3schools.in/dbms/
	    9. https://www. .com/dbms-tutorial.html
	    10. https://www.tutorialcuy.com/dbms
	    11. http://i/yww.mphindiqranthacademy.orq/
	
	Suggested Readings:
	1. An Introduction to Database System by Bipin Desai.
	2. "Database System Concepts" by Abraham Silberschatz and S Sudarshan
	3. "Database Management Systems" by Raghu Ramakrishnan
	4. "Fundamentals of Database Systems" by R Elmasri and S Navathe
	5. "Database Management Systems" by Johannes Gehrke and Raghu Ramakrishnan
	6. Books published by M.P. Hindi Granth Academy, Bhopal	

	Part D-Assessment and Evaluation	

Suggested Continuous Evaluation Methods:
Maximum Marks : 100
Continuous Comprehensive Evaluation (CCE) : 40 marks 'University Exam (UE) : 60marks

Internal Assessment :	Class Test	Total 40
Continuous Comprehensive Evaluation (CCE):40	Assignment/Presentation	
External Assessment:	**Section(A)** : Objective Questions	Total 60
University Exam Section: 60	**Section (B)** : Short Questions	
Time : 03.00 Hours	**Section (C)** : Long Questions	

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<tr><td colspan="4">**St.Aloysius' College Autonomous Jabalpur**</td></tr>
<tr><td colspan="4">**PartA: Introduction**</td></tr>
<tr><td colspan="2">Program: Diploma</td><td>Class : BA</td><td>Sem :- III</td><td>session:2023-2024</td></tr>
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	St.Aloysius' College Autonomous Jabalpur			
	PartA: Introduction			
Program: Diploma		Class : BA	Sem :- III	session:2023-2024
Subject:		Computer Application		
1.	Course Code	**S2-COAP1T**		
2.	Course Title	DBMS (Practical)		
3.	Course Type	Elective		
4.	Pre-requisite			
5.	Course Learning Out comes(CLO)	On the completion of this course student will be able - • To understand database concepts, applications, structure, need and database terminologies. • To know about fundamentals of Relational Algebra and recovery & backup. • To gain skills to create logical design of databases, including the E R method and normalization approach. • To explore issues of transaction processing and concurrency control. • To acquire knowledge of back-end project management skills. • To get knowledge of Database and create own Database. For implementation of different security features to secure the database.		
6.	Credit Value	1		
7.	Total Marks	Max.Marks: 40+60		Min.PassingMarks: 35

Part B: Contents of the Course
Data Base ManagementSystem(Practical)
Total No. of Practical =30 (each of 2 hours duration (1 Practical per week))
Practical will be conducted based on the theory Syllabus

1. **Create a table with name "Employee" having following fields:-**

Field Name	Data Type	Size	Constraint
Eid	Number	10	Primary Key
Ename	Char	20	Not null
Designation	Char	30	Not null
Age	Number	10	Not null
City	Varchar2	25	Not null
Department no	Varchar2	30	Not null
Salary	Decimal	(7,2)	Not null
BankName	Varchar2	30	Not null

Insert the following records in above table structure .

Eid	Ename	Designation	Age	City	Department	Salary	BankName
101	Ford	Manager	24	Mumbai	D1	67820.50	HDFC
102	Jenny	Asst. Mng .	30	Delhi	D1	45750.40	Axis
103	Mary	Clerk	35	Goa	D1	32000.00	Canara
104	Smith	Clerk	28	Madras	D1	28000.00	FBC
105	James	Clerk	27	Mumbai	D1	29000.00	ICICI
106	Anny	Clerk	32	Kolkata	D1	25000.00	Axis
107	Jones	Clerk	34	Delhi	D1	27000.00	HDFC
108	Michal	Clerk	31	Goa	D1	24000.00	FBC

Execute the following queries

1. WAQ to insert one new record in the table.
2. WAQ to change the Ename from Anny to Robin.
3. Delete any one record from table.
4. Add a new column in the employee table with name "email id" having datatype varchar2(15).
5. WAQ to display the entire table using DQL Command .
6. WAQ to display the specific records whose age is greater then 30 using where clause.
7. Display only the city column using where clause.
8. Display the name of employee whose name starts with "J" using predicate.
9. WAQ to find the name of the employees whose salary lies between 24000.00 to 28000.00
10. WAQ to list the number of employees whose name is not "Jenny","Mary","Ford".

St. Aloysius' College (Autonomous) Jabalpur

Part A : Introduction			
Program: Diploma	Class : BA	Sem:- III	Session :2023-2024
Subject :	Computer Application		

1.	Course Code	**S2-COAP1T**	
2.	Course Title	Database Management System	
3.	Course Type(Core Course/Elective/Generic Elective/Vocational/...)	Minor Course	
4.	Pre-requisite(If any)		
5.	Course Learning Outcomes (CLO)	On the completion of this course student will be able - • To understand database concepts, applications, structure, need and database terminologies. • To know about fundamentals of Relational Algebra and recovery & backup. • To gain skills to create logical design of databases, including the E R method and normalization approach. • To explore issues of transaction processing and concurrency control. • To acquire knowledge of back-end project management skills. • To get knowledge of Database and create own Database. • For implementation of different security features to secure the database.	
6.	Credit Value	**Theory** -4	
7.	Total Marks	Max. Marks: 40+60	Min. Passing Marks:35

Part B: Content Of the Course
Database Management System

Total No. of Lectures =60 (in hours per week):3-0-0

Unit	Topics	No. of Lectures
I	**Introduction: Database system concepts**:- Data base system, Advantages of database systems; Data Architecture of data system: View/Schema, logical, conceptual and physical and their interrelationship, data dictionary, Data base administrator. Types of Data Models:- Relational, Hierarchical and Network Model their advantages and disadvantages	12
II	**Entity Relationship Model as a tool of conceptual design**: Entities &Entity set, Relationship & Relationship set, Attributes, Mapping Constraints, Keys, Entity- Relationship diagram (E-R diagram) : Strong & weak entities, Generalization, Specialization, Aggregation, Reducing ER diagram to tables.	12

III	Normalization and SQL concept :- Normalization: First, Second, Third & BCNF Normal Forms, Introduction to SQL,tuple, attribute, Data types, key constraints:- primary key, Candidate key, Integrity rules : Entity integrity, Referential integrity rule.SQL Commands:- , DDL, DML, DCL, TCL syntax and examples, select query with all the clauses. Like Predicate , Operator (Between, In , Not in)	12
IV	**Advance SQL**:- SQL join operations, Sub queries and correlated queries, SQL Functions. Constraints in SQL. Introduction to PL/SQL :- PL/SQL structure, Cursors, Triggers, Stored Procedures and functions.	12
V	**Functional Protection and Crash Recovery**: protection against crashes: different types of crashes; backup, journal, rollback, committed and uncommitted transactions, security on database	12

Part C: Learning Resources

Suggested Digital Platforms, Web links
1. https://www.greatlearning.in/academy/learn-for-free/courses/database-management-systems-dbms
2. https://www.learnvern.com/course/database-management-tutorial-hindi
3. https://www.geeksforgeeks.org/dbms/
4. https://www.tutorialspoint.com/database tutorials.htm 5.
5. https://www.iavatpoint.com/dbms-tutorial
6. https://beginnersbook.com/2015/04/dbms-tutorial
7. https://www.studytonight.com/dbms/
8. https://www.w3schools.in/dbms/
9. https://www. « g.com/dbms-tutorial.html
10. https://www.tutorialcuy.com/dbms
11. http://i/yww.mphindigranthacademy.orq/

Suggested Readings:
1. An Introduction to Database System by Bipin Desai.
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3. "Database Management Systems" by Raghu Ramakrishnan
4. "Fundamentals of Database Systems" by R Elmasri and S Navathe
5. "Database Management Systems" by Johannes Gehrke and Raghu Ramakrishnan
6. Books published by M.P. Hindi Granth Academy, Bhopal

Part D-Assesment and Evaluation

Suggested Continuous Evaluation Methods:
Maximum Marks : 100
Continuous Comprehensive Evaluation (CCE) : 40 marks 'University Exam (UE) : 60marks

Internal Assessment : Class Test Total 40
Continuous Comprehensive Assignment/Presentation
Evaluation (CCE):40
Section(A) : Objective Questions Total 60
Section (B) : Short Questions
Section (C) : Long Questions
External Assessment: University Exam Section: 60 Time : 03.00 Hours

	St.Aloysius' College Autonomous Jabalpur			
	PartA: Introduction			
Program: Diploma		Class : BA	Sem :- III	session:2023-2024
Subject:		Computer Application		
1.	Course Code	**S2-COAP1T**		
2.	Course Title	DBMS (Practical)		
3.	Course Type	Minor		
4.	Pre-requisite			
5.	Course Learning Out comes(CLO)	On the completion of this course student will be able - • To understand database concepts, applications, structure, need and database terminologies. • To know about fundamentals of Relational Algebra and recovery & backup. • To gain skills to create logical design of databases, including the E R method and normalization approach. • To explore issues of transaction processing and concurrency control. • To acquire knowledge of back-end project management skills. • To get knowledge of Database and create own Database. For implementation of different security features to secure the database.		
6.	Credit Value	2		
7.	Total Marks	Max.Marks: 40+60		Min.PassingMarks: 35

Part B: Contents of the Course	
Data Base ManagementSystem(Practical)	
Total No. of Practical =30 (each of 2 hours duration (1 Practical per week))	
Practical will be conducted based on the theory Syllabus	

2. Create a table with name "Employee" having following fields:-

Field Name	Data Type	Size	Constraint
Eid	Number	10	Primary Key
Ename	Char	20	Not null
Designation	Char	30	Not null
Age	Number	10	Not null
City	Varchar2	25	Not null
Department no	Varchar2	30	Not null
Salary	Decimal	(7,2)	Not null
BankName	Varchar2	30	Not null

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107	Jones	Clerk	34	Delhi	D1	27000.00	HDFC
108	Michal	Clerk	31	Goa	D1	24000.00	FBC

Execute the following queries

11. WAQ to insert one new record in the table.
12. WAQ to change the Ename from Anny to Robin.
13. Delete any one record from table.
14. Add a new column in the employee table with name "email id" having datatype varchar2(15).
15. WAQ to display the entire table using DQL Command .
16. WAQ to display the specific records whose age is greater then 30 using where clause.
17. Display only the city column using where clause.
18. Display the name of employee whose name starts with "J" using predicate.
19. WAQ to find the name of the employees whose salary lies between 24000.00 to 28000.00
20. WAQ to list the number of employees whose name is not "Jenny","Mary","Ford".

St.Aloysius' College Autonomous Jabalpur

PartA:Introduction

Program: Diploma		Class : BA	Sem:- IV	Session:2023-2024
Subject :		Computer Application		
1.	Course Code	S2-COAP2T		
2.	Course Title	Introduction to ASP.NET& C#		
3.	Course Type	Elective		
4.	Pre-requisite			
5.	Course Learning Out comes(CLO)	On the completion of this course student will be able- • To learn fundamentals of. net framework • To enrich knowledge about Windows Forms, Controls and ASP.NET based applications. • To gain proficiency in C# by building stand-alone applications in the .NET framework using C#. • To build data-driven applications using the .NET Framework, C#, and ADO.NET • To acquire skills to create web-based applications and Reports using.net technologies		
6.	Credit Value	Theory:- 3		
7.	Total Marks	Max.Marks:40+60		Min.PassingMarks:35

Part B: Contents of the Course

Introduction to ASP.NET& C#

Total No .of Lectures =45(3 hours/ lecture per week)

Unit	Topics	No. of Lectures
I	**Introduction to .NET Framework**: Programming Platform .NET Framework, .NET Architecture, CLR, the Just-in-Time Compiler, C# - The Basics and Console Applications in C#: Introduction to C#., Visual development & event driven Programming Methods and events. Data type, type conversion. Variables constants, operators, Decision making, Loops, Arrays.	12
n	**Overview of OOPs**: Class, Object, Encapsulation, inheritance, polymorphism, abstraction, Understanding Constructors and instance Variables Handling and Using Interfaces. Preprocessor directives, Exception handling, Understanding Delegates in c#. **Windows Forms and Controls:** The Windows Forms Model, Creating Windows Forms, Windows Forms Properties and Events, Windows Form Controls, Menus - Dialogs - ToolTips.	11

III	**Introduction to ASP.NET**:- ASP.NET Life Cycle, page life cycle phases, Understanding ASP.NET Controls, Web forms, Web form controls ,server controls, client controls, HTML controls ,Navigation controls.		11
IV.	**Session Management** :- Event Handling- Application and Session Events, Page and Control Events. Validation controls: RequiredFieldvalidator , RangeValidator, CompareValidator RegularExpressionValidator, CustomValidator, ValidationSummary **Database connectivity in ASP.NET**: Architecture of ADO.NET, Connection Class, Command Class, Data Adapter Class, and Dataset Class, Display data on web form using Data bound controls.		11
	Part C: Learning Resources		
	Suggested DigitaI PIatforms; WebIinks 1. https://docs.microsoft.com/en-us/dotnet/framework/eet-started/svstem-requirements 2. https://www.c-sharpcorner.com/UploadFile/18585c/overview-of-____ 3. https://www.dotnettricks.com/1eaén/designpatterns/adapter-design-pattern-dotnet 4. http://www.mphindieranthacademy.orq•/ Suggested Readings: 1. ASP .NET Unleashed C# programming — Wrox Publication. 2. C# Programming Black Book by Matt Talles. 3. VB.NET Programming Black Book by st.evenholzner — dreamteef publications 4. Mastering VB.NET by Evangelospetroutsos- BPB publications 5. Introduction to .NET framework-Worx publication 6. Books published by M.P. Hindi Granth Academy, Bhopal		

Part D-Assessment and-Evaluation

Suggested Continuous Evaluation Methods:
Maximum Marks : '100
Continuous Comp rehensive Evaluation (CCE) : 40 marks University Exam (UE) :
 60 marks Internal Assessment : Class Test   Total 40
Continuous Comprehensive   Assignment/Presentation
Evaluation (CCE):40
External Assessment :   Section(A) : Objective Questions   Total 60
University Exam Section: 60   Section (B) : Short Questions
Time : 03.00 Hours   Section (C) : Long Questions

St.Aloysius' College Autonomous Jabalpur		

PartA: Introduction

Program: Diploma		Class : BA	Sem :- IV	session:2023-2024
Subject:		Computer Application		
1.	Course Code	S2-COAP2P		
2.	Course Title	Introduction to ASP.NET & C# (Practical)		
3.	Course Type	Elective		
4.	Pre-requisite			
5.	Course Learning Out comes(CLO)	On the completion of this course student will be able- • To learn fundamentals of. net framework • To enrich knowledge about Windows Forms, Controls and ASP.NET based applications. • To gain proficiency in C# by building stand-alone applications in the .NET framework using C#. • To build data-driven applications using the .NET Framework, C#, and ADO.NET • To acquire skills to create web-based applications and reports using.NET technologies		
6.	Credit Value	1		
7.	Total Marks	Max.Marks: 40+60		Min.PassingMarks: 35

Part B: Contents of the Course		
Introduction to ASP.NET & C# (Practical)		

Total No. of Practical =30 (each of 2 hours duration (1 Practical per week))

Practical will be conducted based on the theory Syllabus

List of Practicals

1. Develop a console application in c# to find the addition of two numbers.
2. Develop a console application in c# to find the simple interest.
3. Develop a console application in c# to find the factorial of any n entered number.
4. Develop a console application in c# to display a fibonacci series.
5. Develop a console application in c# to check whether a number is even or odd.
6. Develop a console application in c# to implement array.
7. Develop a console application in c# to find the product and division of entered number.
8. Write a program to declare a class "staff" having data of the members such as name and post. Accept this data and display the result.
9. Define a class having "salary" of members displaying variables such as BASIC, DA , HRA. Develop a window application to find the total salary of the employee.
10. Develop a window application using text box,check box, radio button, list box, labels and validation.
11. Develop a ASP.NET dynamic website for student registration detail.

	St.Aloysius' College Autonomous Jabalpur			
	PartA:Introduction			
Program: Diploma		Class : BA	Sem:- IV	session:2023-2024
Subject :		Computer Application		
1.	CourseCode	S2-COAP2T		
2.	CourseTitle	Introduction to ASP.NET& C#		
3.	Course Type	Minor		
4.	Pre-requisite			
5.	Course LearningOut comes(CLO)	On the completion of this course student will be able- - To learn fundamentals of. net framework - To enrich knowledge about Windows Forms, Controls and ASP.NET based applications. - To gain proficiency in C# by building stand-alone applications in the .NET framework using C#. - To build data-driven applications using the .NET Framework, C#, and ADO.NET - To acquire skills to create web-based applications and Reports using.net technologies		
6.	CreditValue	4		
7.	Total Marks	Max.Marks:40+60		Min.PassingMarks:35

Part B: Contents of the Course Introduction to ASP.NET& C#		

Total No. of Lectures =60(3 hours/ lecture per **week)**

Unit	Topics	No. ofLectures
I	Introduction to .NET Framework: Programming Platform .NET Framework, .NET Architecture, CLR, the Just-in-Time Compiler, C# - The Basics and Console Applications in C#: Introduction to C#., Visual development & event driven Programming Methods and events. Data type, type conversion. Variables constants, operators, Decision making, Loops, Arrays.	12
n	Overview of OOPs: Class,Object,Encapsulation, inheritance, polymorphism, abstraction, Understanding Constructors and instance Variables Handling and Using Interfaces. Preprocessor directives, Exception handling, Understanding Delegates in c#. **Windows Forms and Controls:** The Windows Forms Model, Creating Windows Forms, Windows Forms Properties and Events, Windows Form Controls, Menus - Dialogs - ToolTips.	12

III	**Introduction to ASP.NET**:- ASP.NET Life Cycle, page life cycle phases, Understanding ASP.NET Controls, Web forms, Web form controls ,server controls, client controls, HTML controls ,Navigation controls.	12
IV.	**Session Management** :- Event Handling- Application and Session Events, Page and Control Events. Validation controls: RequiredFieldvalidator , RangeValidator, CompareValidator RegularExpressionValidator, CustomValidator, ValidationSummary	12
V	**Database connectivity in ASP.NET**: Architecture of ADO.NET, Connection Class, Command Class, Data Adapter Class, and Dataset Class, Display data on web form using Data bound controls.	12

Part C:Learning Resources

Suggested Digital Platforms ;Weblinks
1. **https://docs.microsoft.com/en-us/dotnet/framework/eet-started/svstem-requirements**
2. **https://www.c-sharpcorner.com/UploadFile/18585c/overview-of-**
3. https://www.dotnettricks.com/1eaén/designpatterns/adapter-**design-pattern-dotnet**
4. http://www.mphindieranthacademy.orq•/

Suggested Readings:
1. ASP .NET Unleashed C# programming — Wrox Publication.
2. C# Programming Black Book by Matt Talles.
3. VB.NET Programming Black Book by st.evenholzner —dreamteef publications
4. Mastering VB.NET by Evangelospetroutsos- BPB publications
5. Introduction to .NET framework-Worx publication
6. Books published by M.P. Hindi Granth Academy, Bhopal

Part D-Assessment and-Evaluation i.

Suggested Continuous Evaluation Methods:

Maximum Marks : '100
Continuous Comp rehensive Evaluation (CCE) : 40 marks University Exam (UE) :
60 marks Internal Assessment :   Class Test Total 40
Continuous Comprehensive   Assignment/Presentation
Evaluation (CCE):40
External Assessment :   Section(A) : Objective Questions   Total 60
University Exam Section: 60   Section (B) : Short Questions
Time : 03.00 Hours   Section (C) : Long Questions

	PartA:Introduction			
Program: Diploma		Class : BA	Sem :- IV	session:2023-2024
Subject:	Computer Application			
1.	**CourseCode**	S2-COAP2P		
2.	**CourseTitle**	Introduction to ASP.NET & C# (Practical)		
3.	Course Type	Minor		
4.	Pre-requisite			
5.	Course LearningOut comes(CLO)	On the completion of this course student will be able- • To learn fundamentals of. net framework • To enrich knowledge about Windows Forms, Controls and ASP.NET based applications. • To gain proficiency in C# by building stand-alone applications in the .NET framework using C#. • To build data-driven applications using the .NET Framework, C#, and ADO.NET • To acquire skills to create web-based applications and reports using.NET technologies		
6.	Credit Value	2		
7.	Total Marks	Max.Marks: 40+60		Min.Passing Marks: 35

Part B: Contents of the Course **Introduction to ASP.NET & C# (Practical)**
Total No.of Practical =30 (each of 2 hours duration (1 Practical per week))
Practical will be conducted based on the theory Syllabus

List of Practicals

1. Develop a console application in c# to find the addition of two numbers.
2. Develop a console application in c# to find the simple interest.
3. Develop a console application in c# to find the factorial of any n entered number.
4. Develop a console application in c# to display a fibonacci series.
5. Develop a console application in c# to check whether a number is even or odd.
6. Develop a console application in c# to implement array.
7. Develop a console application in c# to find the product and division of entered number.
8. Write a program to declare a class "staff" having data of the members such as name and post. Accept this data and display the result.
9. Define a class having "salary" of members displaying variables such as BASIC, DA , HRA. Develop a window application to find the total salary of the employee.
10. Develop a window application using text box,check box, radio button, list box, labels and validation.
11. Develop a ASP.NET dynamic website for student registration detail.