

RayatShikshanSanstha's
Yashwantrao Chavan Institute of Science, Satara (Autonomous)
Class: B. Voc. (Software Development) - II
Paper Code & Title:- MM1231.9 Mathematics II

Que. Answer in one sentence.

1. If $A = \{1, 2, 3\}$ and $B = \{a, b, c\}$ then find $A \times B$, $A - B$, $B - A$, $A \cup B$, $A \cap B$
2. Consider $A = \{1, 2, 3, 6, 8\}$ and $B = \{1, 2, 5, 6\}$ find $A - B$ and $B - A$, $A \times B$, $A \cup B$, $A \cap B$
3. Define Set
4. Define cardinality of a set
5. Define simple statement
6. Define Compound statement and give one example
7. Give the converse, inverse, contrapositive of conditional statement
 - a. 'If an integer is even then it is divisible by 2'
 - b. If 3 is prime then 2 is odd
 - c. If I study hard then I get distinction
 - d. If I walk then I can run
 - e. If 5 is even then 3 is odd
8. Define relation
9. Define reflexive relation
10. Define symmetric relation
11. Define transitive relation
12. Define equivalence relation
13. Define asymmetric relation
14. Define partial order relation
15. Define function
16. Define one-one function
17. Define onto function
18. Define bijection
19. Define Group
20. Define abelian group
21. Define order of group
22. Define binary operation
23. Define loop
24. Define parallel edges
25. Define Isolated vertex
26. Define Null graph

27. Define pendent vertex
28. Define path
29. Define trail
30. Define circuit/cycle
31. Define Digraph
32. Define outdegree
33. Define Indegree
34. Define cyclic graph
35. Define acyclic graph

Que. Solve the following.

1. Prove the following logical equivalence;
 - a) $p \vee (q \wedge r) \equiv (p \vee q) \wedge (p \vee r)$
 - b) $p \wedge (q \vee r) \equiv (p \wedge q) \vee (p \wedge r)$
 - c) $p \wedge (q \wedge r) \equiv (p \wedge q) \wedge r$
 - d) $p \vee (q \vee r) \equiv (p \vee q) \vee r$
 - e) $\sim(p \wedge q) \equiv \sim p \vee \sim q$
2. Translate into symbolic form and test the validity of following argument:
 - a) “ If I work then I cannot study.
 Either I work or I pass in Mathematics.
 I passed in Mathematics.
 Therefore, I studied.”
 - b) “ If 6 is even then 2 does not divide 7.
 Either 5 is not prime or 2 divides 7.
 5 is prime.
 Therefore, 6 is not even.”
 - c) “If it rains heavily and there is high tide, then the roads get flooded.
 There is high tide but the roads are not flooded.
 Therefore, it has not rains heavily.”
 - d) “If I study hard then I get distinction.
 I study hard.
 Therefore, I get distinction.”
 - e) “ If 6 is prime then 7 does not divide 14.
 7 divides 14.
 Therefore, 7 is not prime.
3. Test the validity of following argument:
 - a) $p \vee q, q \rightarrow (r \wedge s), \sim s \vdash p$

- b) $p \wedge (p \leftrightarrow q) \vdash q$
 c) $p \rightarrow r, p \rightarrow q \vdash p \rightarrow (r \wedge q)$
 d) $p \vee \sim q, \sim p, r \rightarrow q \vdash \sim r$
 e) $p \leftrightarrow q, q \vee r, \sim r \vdash \sim p$
4. Prove by induction that $\frac{1}{1.2} + \frac{1}{1.3} + \dots + \frac{1}{n(n+1)} = \frac{n}{n+1}$
5. Prove that, $n^4 - 4n^2$ is divisible by 3, for all $n \geq 2$
6. Find transitive closure of R by using Warshall's algorithm.
- a) Let $A = \{a, b, c, d\}$ and R be the relation defined on set A such that
 $R = \{(a, a), (a, d), (b, a), (b, b), (c, c), (d, d)\}$
- b) Let $A = \{1, 2, 3, 4\}$ and R be the relation defined on set A such that
 $R = \{(1, 1), (1, 2), (1, 4), (3, 2), (4, 1), (4, 3)\}$.
- c) Let $A = \{1, 2, 3\}$ and R be the Relation on Set A,
 $R = \{(1,1), (1,2), (2,1), (2,2), (2,3), (3,1), (3,3)\}$.
- d) Let $A = \{a_1, a_2, a_3, a_4, a_5\}$ and R be relation on set A.
 $R = \{(a_1, a_1), (a_1, a_2), (a_2, a_3), (a_3, a_1), (a_4, a_5), (a_5, a_1)\}$.
- e) Let $A = \{0, 1, 2, 3\}$ and $R = \{(0,0), (0,1), (0,3), (1,2), (2,1), (3,0), (3,2)\}$
7. Define equivalence and partial order relation show that a relation R defined on set of integers $Z = \{\dots, -2, -1, 0, 1, 2, \dots\}$ such that xRy if and only if $x \leq y$ is a partial order relation but not an equivalence relation.
8. Define equivalence and partial order relation show that a relation R defined on set Natural numbers = $N = \{1, 2, \dots\}$ such that xRy if and only if $x \leq y$ is a partial order relation but not an equivalence relation.
9. Let $A = \{a, b\}$ be a set. Then show that power set of A, $P(A) = \{\emptyset, \{a\}, \{b\}, \{a,b\}\}$, with relation \subseteq satisfies properties of partial order relation.
10. Give the definition of bijective function. Consider the function $f: \mathbb{N} \rightarrow \mathbb{N}$ defined by $f(x) = x^2$, where \mathbb{N} is the set of natural numbers. State whether or not the function f is one-one, onto and bijective.
11. Then show that a function $f: \mathbb{R}_0 \rightarrow \mathbb{R}_0$ defined by $f(x) = \frac{1}{x}$; for all $x \in \mathbb{R}_0$ is a bijection.
12. Let $f(x) = 2x^2 - 7$ defined on set of integers. Find $f(2), f(7), f(-2), f(0), f(t-2)$.
13. If $f(x) = 2x + 5$ defined on set of integers. Find $f(2), f(7), f(-2), f(0), f(t-2)$.
 Domain, range, image. Whether f is one-one, onto, bijective function?
14. Show that the function $f: \mathbb{R} \rightarrow \mathbb{R}$ such that $f(x) = ax + b$, where a, b are real numbers is invertible.
15. Show that $G = \{0, 1, 2, 3, 4, 5, 6\}$ is a finite abelian group of order 7 w.r.t.

addition modulo 7

16. Show that $G = \{0, 1, 2, 3, 4, 5\}$ is a finite abelian group of order 6 w.r.t. addition modulo 6

17. Show that $G = \{0, 1, 2, 3, 4\}$ is a finite abelian group of order 5 w.r.t. addition modulo 5.

18. Show that $G = \{0, 1, 2, 3, 4, 5, 6, 7\}$ is a finite abelian group of order 8 w.r.t. addition modulo 8

19. Show that $G = \{0, 1, 2, 3, 4, 5, 6, 7, 8\}$ is a finite abelian group of order 9 w.r.t. addition modulo 9

20. Show that the set of fourth root of unity $G = \{1, -1, i, -i\}$ is an commutative group under usual multiplication.

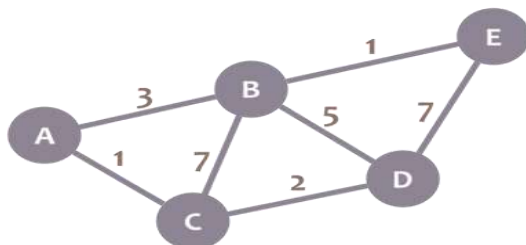
21. Show that the set $G = \{1, 2, 3, 4, 5, 6\}$ is a finite abelian group of order 6 w.r.t. multiplication modulo 7

22. Show that, the set of positive rational number is a group under binary operation $*$ defined by, $a * b = \frac{ab}{2}$ for all $a, b \in \mathbb{Q}^+$

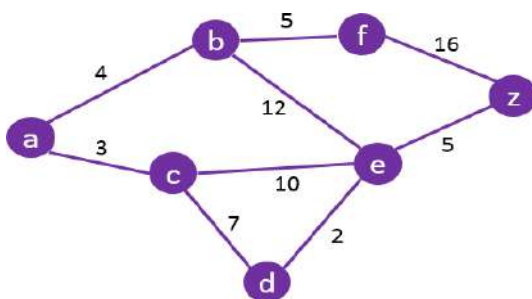
23. Let S be set of real numbers except -1 . Define $*$ on S by $a*b = a+b+ab$. Show that S is a group under operation $*$.

24. By using Dijkstra's algorithm, find the shortest path from vertex a to all vertices of the graph given below:

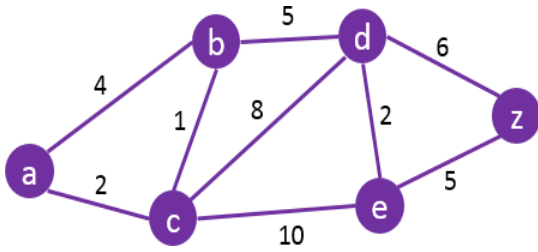
a)



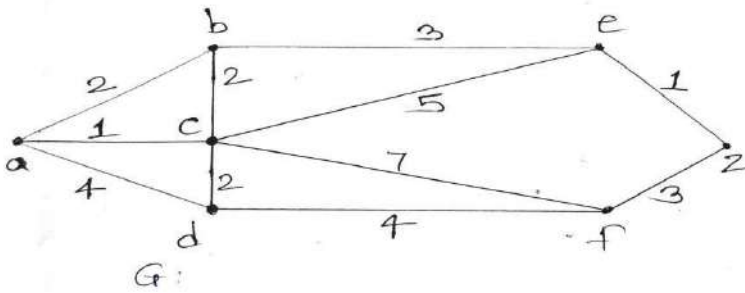
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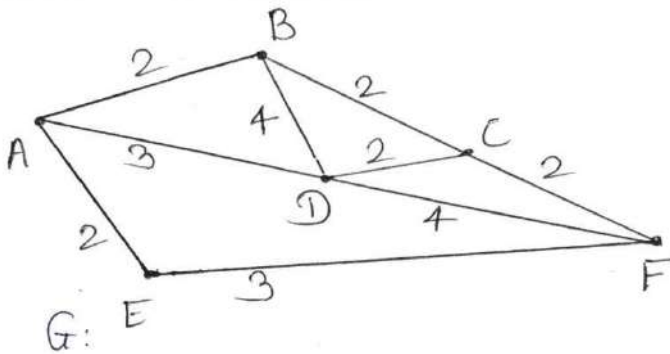
c)



d)



e)



25. Find the number of different topological ordering possible for given graphs:

Que. Solve the following.

1. By giving a proof by contradiction, prove that $\sqrt{2}$ is irrational
2. By giving a proof by contradiction, prove that $\sqrt{5}$ is irrational
3. Suppose x is an integer. Then prove that x is even if and only if x^2 is even
4. Show that product of two odd integers is odd.

5. Prove that, "If $3n+2$ is odd, then n is odd"
6. Prove that " If n is positive integer then, then n is odd iff $5n+6$ is odd.
7. Consider $A = \{ 1, 3, 5, 7 \}$ and $B = \{0, 2, 3\}$ find Cartesian product $A \times B$ and $B \times A$. Is two set $A \times B$ and $B \times A$ are equal? Justify your answer.
8. Give matrix representation of following relation:
 - a) Let $A = \{a, b, c, d\}$ and R be the relation defined on set A such that $R = \{(a, a), (a, d), (b, a), (b, b), (c, c), (d, d)\}$
 - b) Let $A = \{1, 2, 3, 4\}$ and R be the relation defined on set A such that $R = \{(1, 1), (1, 2), (1, 4), (3, 2), (4, 1), (4, 3)\}$.
 - c) Let $A = \{1, 2, 3\}$ and R be the Relation on Set $A, R = \{(1,1), (1,2), (2,1), (2,2), (2,3), (3,1), (3,3)\}$.
 - d) Let $A = \{ a_1, a_2, a_3, a_4, a_5 \}$ and R be relation on set $A. R = \{(a_1, a_1), (a_1, a_2), (a_2, a_3), (a_3, a_1), (a_4, a_5), (a_5, a_1)\}$.
 - e) Let $A = \{0, 1, 2, 3\}$ and $R = \{(0,0), (0,1), (0,3), (1,2), (2,1), (3,0), (3,2)\}$
9. Give truth table of converse, inverse and contrapositive of conditional statement.
10. Show that set of integers is a group under operation addition
11. Show that set of real numbers is a group under operation addition
12. Show that set of complex numbers is a group under operation addition
13. Show that set of natural numbers is a not group under operation addition
14. Show that set of whole numbers is a not group under operation addition
15. Explain the concept of graph
16. Explain the concept of Directed graph
17. Explain the concept of walk, path, trail, circuit in graph G
18. Explain the concept of Simple graph, Multigraph
19. Explain the concept of loop and parallel edges in undirected and directed graph
20. Explain the concept of degree of vertex in digraph.

B.Voc. -II (Software Development) Sem.-IV Examination
Business Informatics (VS 341)
Question Bank

2 Marks Que

1. Define E-commerce.
2. How E-commerce differ from traditional commerce?
3. Define Security attacks.
4. Define cryptanalysis.
5. What is firewall?
6. What is use of digital signature?
7. What is public key cryptography?
8. What is one to one marketing?
9. What is Segmentation?
10. What is multimedia?
11. Define B2B E-commerce with example
12. Give any 2 applications of e commerce.
13. What is encryption and decryption?
14. What is active and passive attacks?
15. Define marketing management.
16. Define E-commerce.
17. How E-commerce differ from traditional commerce?
18. Define Security attacks.
19. Define cryptanalysis.
20. What is firewall?
21. What is use of digital signature?
22. What is public key cryptography?
23. What is one to one marketing?

8 Marks Que

1. What is role of e-commerce in the field of education and learning?
2. What is C2C E-commerce? Explain in detail with examples.
3. What is role of e-commerce in the field of entertainment Sector?
4. What is B2G E-commerce? Explain in detail with examples.
5. Explain the concept of e-wallet.
6. Discuss two e-marketing strategies in detail.
7. Discuss about the web servers and their role in E-Commerce.
8. Differentiate passive attack from active attack with example.
9. What are security concerns in E-commerce?
10. Explain types of attack in detail.
11. What are online advertising methods?
12. Draw the taxonomy of e commerce business models categories.
13. Explain the concept of e-money.
14. Explain concept of Non repudiation in detail.
15. What is secret key cryptography?
16. Explain in detail Internet banking and Mobile banking
17. Explain concept of encryption and decryption with example.

18. What is cryptocurrency? Explain the same.
19. Discuss two e-marketing strategies in detail.
20. Draw the taxonomy of e-commerce business models categories.
21. Define micro electronic payment and its role in E-Commerce.
22. Differentiate passive attack from active attack with example.
23. Write a note on i) Internet banking ii) Mobile banking
24. What are modes of electronic payment system

4 Marks Que

1. Explain the advantages and disadvantages of e-commerce?
2. Explain concept of debit card.
3. Differentiate Substitution and Transposition techniques.
4. Explain mass marketing in detail.
5. What are advertising strategies?
6. Explain types of attack in detail
7. Compare Substitution and Transposition techniques.
8. Explain main types of marketing in detail.
9. Explain the advantages of UPI?
10. Explain briefly Anatomy of a credit card

B. Voc II (Software Development) Sem-IV) Examination
FINANCIAL ACCOUNTING – VS-342
Subject code: 80033

Q.1) Define the following terms.

[2 marks]

1. Good will
2. Capital
3. Goods
4. Personal Account
5. Nominal Account
6. Real Account
7. Journal
8. Book Keeping
9. Accounting
10. Finance

Q.2) Answer the following

[8 marks]

A) Journalise the following transactions in the books of Pavan Bora Grocery seller

2020 April

- 1 Raj Kumar started business with cash RS 4,00,000 Building RS. 4,00,000 and borrowed loan from Shubham RS. 1,00,000
- 4 Deposited cash into Canara Bank RS 1,00,000
- 7 Purchased computer from Amit of RS 40,000 @ 18% GST and paid by cheque
- 10 cash sale RS .90, 000

(A) Journalise the following transactions in the books of Raj Kumar Grocery seller

2019 April

- 1 Raj Kumar started business with cash RS 2,00,000 Building RS. 2,00,000 and borrowed loan from Rakesh RS. 50,000
- 4 Deposited cash into Dena Bank RS 50,000
- 7 Purchased computer from Brijesh of RS 30,000 @ 18% GST and paid by cheque
- 10 cash sale RS .90, 000

B) When bank balance as per cash book is given

The Bank column of cash book showed a debit balance of RS 49,000 on 31st October 2011 while comparing the book Balance with the pass book balance following differences were noticed

1. cheques of 9,000 and RS 15,000 were deposited but were not collected and credited by bank till 31st October 2011
2. our debtor directly deposited RS 8,00 in to the bank account not recorded in the cash book
3. bank credited interest on investment 'RS 500
4. cheque of RS 10,000 issued but not presented for payment to the bank
5. bank paid insurance premium RS 6,000 but not entered in the cash book
6. Bank debited bank charges RS 100.

C) Given below is the Trial Balance of Mrs. Vandana as on 31st march 2010 Trial Balance As on 31st March 2010 **[8+8=16]**

Debit Balances	Amt.	Credit Balances	Amt.
Cash in hand	6,000	Bank Loan	20,000
Sundry Debtors	23,300	Sundry Creditors	15,000
Bills Receivable	10,000	Sales	65,800
Opening stock	16,000	Purchase Return	3,700
Purchases	37,900	Bills payable	8,000
Sales Returns	800	Discount Received	2,500
Salaries	11,000	Capital	55,000
Wages	2,000		
Advertisement	3,200		
Discount Allowed	1,000		
Machinery	40,000		
Carriage	2,500		
Insurance	1,800		
Drawings	2,500		
Octroiduty	800		
furniture	8,000		
Office Rent	3,200		

	1,70,000		1,70,000
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Adjustments

- 1) Closing stock of goods on 31/03/2010 was valued at RS 21,000
- 2) Depreciate Furniture by 5 % and machinery by 10% p.a
- 3) Outstanding salary RS 1,000 and wages RS 500
- 4) Prepaid insurance RS 300

(A) Prepare Trading Account and profit and loss account [8]

(B) Prepare balance sheet [8]

D) from the following ledger balances prepare trial Balance of Mrs shailaja as on 31st march, 2011. [8+8=16]

Particulars	Amount	Particulars	Amount
Capital	1,00,000	Wages	300
Plant & machinery	1,000	Debtors	1,000
Insurance	500	Purchases	1,500
Drawings	1,000	Creditors	1,000
Motor van	400	Rent Rates & Taxes	300
Stock 1/04/2010	1,000	Reserve For Doubt full debts	100
Cash at bank	1,200	Sales	1,500
Land & Building	1,500	Outstanding Expenses	100
Office Expenses	700	Salaries	1,000
Freight Inward	400	Trade Debts	1,000

E) Partners of neerja publishing house Nariman point Mumbai Sameer gupta draws a bill of exchange for 1 month on 9th February 2020 for RS 62,000 on namrata kokil panvel road khargnar payable to m/s vidya traders Lon avala the bill was accepted on the same day for 2 month.

F) Journalise the following transactions in the books of sankalp general stores 2019 July, [8]

- 1 started business with cash RS 1,00,000 stock of goods worth RS 50,000.
- 4 purchased goods from Karina on credit RS 10,000 at 5 % trade discount.

10 sold goods to priyanka RS 20,000 at 10% trade discount.

13 paid into state bank of India RS 50,000.

G) When overdraft as per cash Book is given on 31st October 2011 the cash book of Mr Rahim showed an overdraft of RS 5,600 from the following Particulars prepare bank Reconciliation Statement. **[8]**

1. cheques issued but not encased RS 3,946.
2. cheques paid into Bank But not credited by Bank RS 4,891.
3. Bill of exchange RS 520 discounted with the Bank, dishonoured and bank charges debited by Bank RS 55.
4. Debit is made in the pass Book for RS 120 on account of interest on overdraft.
5. The Bank has collected interest on investment RS 760.

H) Given below is the Trial Balance of Mr Hitesh Gabra you are required to prepare Trading & profit and loss account for year ended 31st march 2008 and a Balance sheet as on that date. Trial Balance as on the 31st march 2008

Debit Balances	Amount	Credit Balances	Amount
Bank Balance as on 1/4/07	10,000	Capital	10,000
Purchases	12,500	Sales	12,500
Drawings	1,000	Dundry creditors	1,000
Insurance	200	Return outward	100
10% Investment	1,000	D. D.	100
Plant & Machinery	1,000	Commission	200
Wages	1,000		
Salaries	1,000		
Carriage	1,000		
Royalties	1,000		
Return Inward	500		
Dundry Debtors	1,000		
Discount	100		
Advertisement (3 years)	100		

Adjustments:

1. Stock at 31st march 2008 was worth RS 15,200
2. Goods off RS 5,000 withdraw for Personal use by proprietor
3. Write off RS 1,000 as bad debts and provide 5% R. D. D. on debtors.
4. Wages RS 1,000 and Salaries RS 2,000 were unpaid
5. Commission includes RS 1,200 received as advance.
6. Depreciate plant & Machinery by 10 % and Furniture by RS 1,000

I) Prepare Trading Account and profit and loss account [8]

J) Prepare balance sheet [8]

Q. 3 Write short notes on the following (any four) [4marks]

1. Depreciation
2. Accounting Rules
3. Trial balance
4. Book keeping
5. Accountancy
6. Trade Bill
7. foreign Bill.
8. Objectives of accounting
9. Scope of accounting
10. Day book

ASP.NET with C#.NET

VS 343

2 Marks Question with answer.

1) What is ASP net in C#?

Answer: ASP.NET is a web application framework developed and marketed by Microsoft to allow programmers to build dynamic web sites. It allows you to use a full featured programming language such as C# or VB.NET to build web applications easily.

2) What does ASP NET stand for?

Answer: Difference between ASP and ASP.NET. ASP: ASP stands for Active Server Pages. It is a development framework used for building web pages. ASP was introduced in 1998 by Microsoft as its first server side scripting language.

3) What is ASP full form?

Answer: ASP: Active Server Page

ASP stands for Active Server Page. ASP was developed by Microsoft to allow programmers to create a dynamic website. It is the first server side script engine and now has been superseded by ASP.NET. ASP is an HTML page that includes one or more scripts.

4) What is difference between ASP Net and ASP?

Answer: The most important difference between ASP and ASP.Net is that ASP uses interpreted VBScript or JScript, and ASP.net uses any . Net language (including VB.Net, C#, J#, etc.) compiled. ... ASP.NET allows the programmer to create dynamic link libraries containing the sensitive code.

5) What is ASP used for?

Answer: ASP.NET is an open source, server-side web application framework created by Microsoft that runs on Windows and was started in the early 2000s. ASP.NET allows developers to create web applications, web services, and dynamic content-driven websites.

6) What are the advantages of ASP?

Answer: ASP.NET reduces the line of code needed to develop large applications. The ASP code and HTML smoothly mix with each other to generate dynamic web pages. It is an ideal server-side scripting technology that is why code runs on the windows server before displaying on the web browser.

7) What are the disadvantages of ASP Net?

Answer: Disadvantages of ASP.net:

- Undefined Application Architecture with lack of Separation of Concerns (SoC)
- Complex Pages with Performance issues.
- Lack of abstraction with least control over HTML.
- Limited support for testing and SEO.
- Lack of Reusability and minimal parallel Development.
- Learning Difficulties.

8) Why ASP net is better than other languages?

Answer: Asp.net gives you much more easy going feeling than Java or PHP. Because asp.net is not language as Java and Php, it's a framework, which makes your life as a developer a whole lot easier. Plus you can use number of language supported by . net platform for web development in asp.net like C#, VB.Net, Python etc.

9) Where is .NET used?

Answer: NET (pronounced dot net) is a framework that provides a programming guidelines that can be used to develop a wide range of applications—from web to mobile to Windows-based applications. The . NET framework can work with several programming languages such as C#, VB.NET, C++ and F#. At Grand Circus, we use C#.

10) What are standard controls in asp net?

Answer: All the standard ASP.NET controls are contained in the System.Web.UI namespace.

These controls can be divided into seven groups:

Standard Controls—Enable you to render standard form elements such as buttons, input fields, and labels. ...

Validation Controls—Enable you to validate form data before you submit the data to the server.

11) What are rich controls in asp net?

Answer: In addition to the preceding controls, the ASP.NET page framework provides a few, task-specific controls called rich controls. Rich controls are built with multiple HTML elements and contain rich functionality. Examples of rich controls are the Calendar control and the AdRotator control.

12) What do you mean by server controls?

Answer: An ASP.NET server control is a tag written in a Web page to represent a programmable server-side object used for displaying a user interface element in a Web page. ASP.NET server controls are tags that can be understood by the server.

13) What is Web form controls in asp net?

Answer: Web Controls

The most important kind of **control in ASP.NET** is the **Web Forms server control** or just **Web control**. These are new **controls** provided by the .NET Framework, with special tags such as `<asp:textbox>`. These **controls** run at the server, and they generate HTML code that is sent back to the browser.

14) What is properties in asp net?

Answer: A **property** is a member that provides a flexible mechanism to read, write, or compute the value of a private field. **Properties** can be used as if they are public data members, but they are actually special methods called accessors.

15) What are server side controls?

Answer: The Microsoft.NET Framework provides a rich set of **server-side controls** for developing Web applications. ... **Server-side controls** are often called **server controls** or **Web Forms controls**. There are four types of **Server controls**: **HTML server controls**, **Web server controls**, **validation control**, and **user controls**.

16) What is server side in ASP NET?

Answer: The most popular is Microsoft's **ASP.NET**. In **ASP.NET**, **server-side** code uses the .NET Framework and is written in languages like C# and VB.NET. **Server-side** processing is used to interact with permanent storage like databases or files. The **server** will also render pages to the **client** and process user input.

17) What are objects in asp net?

Answer: Objects of ASP.NET

Object Name	Description
Request	It enables ASP .NET applications to access information sent by the client during a Web request. It is a reference of HttpRequest Class
Response	It enables ASP .NET application to send information to the client. It is a reference of HttpResponse Class

18) What is ASP NET response?

Answer: One of the most important objects in **ASP** is the **Response** object. It is the object which communicates between the server and the output which is sent to the client. To write an **ASP** page, all you need to do is write a standard HTML page, putting in the Active Server Pages script where needed.

19) What is cookies in asp net?

Answer: ASP.NET Cookie. **ASP.NET Cookie** is a small bit of text that is used to store user-specific information. ... When a user requests for a web page, web server sends not just a page, but also a **cookie** containing the date and time. This **cookie** stores in a folder on the user's hard disk.

20) What are the different validation controls in asp net?

Answer: ASP.NET provides the following validation controls:

- RequiredFieldValidator.
- RangeValidator.
- CompareValidator.
- RegularExpressionValidator.
- CustomValidator.
- ValidationSummary.

21) What is validation and types of validation in asp net?

Answer: Validation Controls in ASP.NET

Validation Control	Description
RangeValidator	Checks that the user enters a value that falls between two values
RegularExpressionValidator	Ensures that the value of an input control matches a specified pattern

22) What is form validation?

Answer: Form validation normally used to occur at the server, after the client had entered all the necessary data and then pressed the Submit button. ... JavaScript provides a way to **validate form's** data on the client's computer before sending it to the web server. **Form validation** generally performs two functions

23) What is database in Ado net?

Answer: ADO.NET is a data access technology from the Microsoft .NET Framework that provides communication between relational and non-relational systems through a common set of components. **ADO.NET** is a set of computer software components that programmers can use to access data and data services from a **database**.

24) What is command in Ado net?

Answer: Command Object. The **ADO Command** object is used to execute a single query against a database. The query can perform actions like creating, adding, retrieving, deleting or updating records. If the query is used to retrieve data, the data will be returned as a RecordSet object.

25) What is ADO NET stands for?

Answer: **ADO.NET** stands for ActiveX Data Object is a database access technology created by Microsoft as part of its .NET framework that can access any kind of data source.....You use SQL queries through **ADO.NET** Command object, which returns data in the form of DataReader or DataSet objects.

26) What is ADO Net architecture?

Answer: **ADO.NET** uses a multilayer **architecture** that has components such as the Connection, Reader, Command, Adapter and DataSet objects. **ADO.NET** introduced data providers that are a set of special classes to access a specific database, execute SQL commands and retrieve data.

27) What is ExecuteScalar in C#?

Answer: The **ExecuteScalar()** in C# SqlCommand Object is using for retrieve a single value from Database after the execution of the SQL Statement. ... If the Result Set contains more than one columns or rows , it will take only the value of first column of the first row, and all other values will ignore.

28) What is ADO NET components?

Answer: The two key **components** of **ADO.NET** are Data Providers and DataSet . The Data Provider classes are meant to work with different kinds of data sources. They are used to perform all data-management operations on specific databases.

29) What are the benefits of ADO.NET?

Answer: 1>Scalability:- ADO.NET works on DataSet that can represent a whole database or even a data table as a disconnected object and thereby eliminates the problem of the constraints of number of databases being connected. ...

2>Data Source Independence:- ...

3>Interoperability:- ...

4>Strongly Typed Fields:- ...

5>Performance:- ...

6>Firewall:

30) What is crystal report in asp net c#?

Answer: **Crystal Reports in ASP.NET.** **Crystal Reports** is the standard reporting tool for Visual Studio .NET used to display data of presentation quality. You can display multiple-level totals, charts to analyze data, and much more in **Crystal Reports**.

31) Why is crystal report important in ASP NET application?

Answer: Creating **Crystal Report** in **ASP.NET.** **Reporting** plays an **important** role in many information systems. **Crystal report** supports **ASP.NET** to design a **report** and render in **ASP.NET** page with records.

32) How do you use Crystal Reports?

Answer: Now, follow the steps for creating a **Crystal Report**.

1. Create a table in the database. ...
2. Create a VIEW in your database to display employee data information.
3. Go to Visual Studio.
4. Go to the Solution Explorer and right-click on your project name and select Add -> New Item.
5. Add New Item-> Crystal Report.
6. Click the Ok Button.

33) How Crystal Report is implemented in ASP.NET?
Answer: Run Crystal Reports Under 64 Bit IIS.

1. Create the ASP.NET Web Forms Application.
2. Create ASP.NET Web Forms Project.
3. Create a Dataset.
4. Add Crystal Report to the Project.
5. Bind the Dataset to Crystal Report and Add Fields.
6. Create an ASP.NET Web Form.
7. Add a Crystal Viewer Control to Web Forms and Bind it to the Report.

34) What is Crystal Report Writer?

Answer: Crystal Reports is a popular Windows-based **report writer** solution that allows a developer to create **reports** and dashboards from a variety of data sources with a minimum of code to write. ... While users can create simple **reports**, the software also offers comprehensive tools needed to produce complex or specialized **reports**.

35) What are the basics of C#?

Answer: You'll also learn basic OOP concepts such as overloading, polymorphism, abstraction, and interfaces. The article also covers common iteration statements including for, while, do while, and foreach. C# is an **object-oriented** programming language. The foundation of an **object-oriented** programming is a type system universe.

36) What is C# language used for?

Answer: C# was developed by Microsoft and is **used** in essentially all of their products. It is mainly **used for** developing desktop applications and, more recently, Windows 8/10 applications. It is also a part of .NET so it is **used** alongside **languages** like ASP in web development and apps.

37) What are data types in C#?

Answer: C# mainly categorized **data types** in two **types**: Value **types** and Reference **types**. Value **types** include simple **types** (e.g. int, float, bool, and char), enum **types**, struct **types**, and Nullable value **types**. Reference **types** include class **types**, interface **types**, delegate **types**, and array **types**.

38) Why data types are important in C#?

Answer: C# is a strongly typed programming language because in **C#**, each **type** of **data** (such as integer, character, float, and so forth) is predefined as part of the programming language and all constants or variables defined for a given program must be described with one of the **data types**.

39) What is array in C#?

Answer: C# - Arrays. An **array** stores a fixed-size sequential collection of elements of the same type. An **array** is used to store a collection of data, but it is often more useful to think of an **array** as a collection of variables of the same type stored at contiguous memory locations.

40) What is array and its types in C#?

Answer: C# array is an object of base **type** System.

Array elements can be of any **type**, including an **array type**. **Array types** are reference **types** which are derived from the abstract base **type** **Array**. These **types** implement **IEnumerable** and for **it**, they use **foreach** iteration on all **arrays** in **C#**.

41) What is class and objects in C#?

Answer: Class and Object are the basic concepts of **Object-Oriented Programming** which revolve around the real-life entities. A **class** is a user-defined blueprint or prototype from which **objects** are created. ... In **C#**, **classes** support polymorphism, inheritance and also provide the concept of derived **classes** and base **classes**.

42) What is object in C sharp with example?

Answer: C# Object. In **C#**, **Object** is a real world entity, for **example**, chair, car, pen, mobile, laptop etc. In other words, **object** is an entity that has state and behavior. Here, state means data and behavior means functionality. **Object** is a runtime entity, it is created at runtime.

43) What is classes in C# with example?

Answer: Everything in **C#** is associated with **classes** and objects, along with its attributes and methods. For **example**: in real life, a car is an object. The car has attributes, such as weight and color, and methods, such as drive and brake. A **Class** is like an object constructor, or a "blueprint" for creating objects.

44) What is the use of interface in C#?

Answer: Interfaces are **used** along with classes to define what is known as a contract. A contract is an agreement on what the class will provide to an **application**. An **interface** declares the properties and methods. It is up to the class to define exactly what the method will do.

45) Explain the request flow in ASP.NET MVC framework.

Answer: Request flow handles the request from the clients and passes it to the server. Request hits the controller coming from the client. Controller plays its role and decides which model to use in order to serve the request further, passing that model to view which then transforms the model and generates an appropriate response that is rendered to the client.

46) What is the difference between custom controls and user controls?

Answer: Custom controls are basically compiled code, i.e., DLLs. These can be easily added to the toolbox, so it can be easily used across multiple projects using a drag-and-drop approach. These controls are comparatively hard to create. But User Controls (.ascx) are just like pages (.aspx). These are comparatively easy to create but tightly coupled with respect to User Interface and code.

47) What is ASP.NET AJAX?

Answer: Microsoft has provided an implementation of AJAX functionality known as ASP.NET AJAX. AJAX stands for Asynchronous JavaScript and XML. This is a cross-platform technology which speeds up response time and reduces traffic between client and server. ASP.NET AJAX is a set of extensions to ASP.NET and comes with reusable AJAX controls.

Explain the ASP.NET page life cycle in brief.

What are the different Validators in ASP.NET?

Answer: ASP.NET validation controls define an important role in validating the user input data. Whenever the user gives input, it must always be validated before sending it across the various layers of an application. There are two types of validation in ASP.NET:

- Client-Side Validation
- Server-Side Validation

Client-Side Validation: When validation is done on the client browser, it is known as Client-Side Validation. You can use JavaScript to do the Client-Side Validation. **Server-Side Validation:** When validation occurs on the server, then it is known as Server-Side Validation. Server-Side Validation is a secure form of validation. The main advantage of Server-Side Validation is if the user bypasses the Client-Side Validation, the problem can be caught on the server-side. The following are the Validation Controls in ASP.NET:

- RequiredFieldValidator Control
- CompareValidator Control
- RangeValidator Control
- RegularExpressionValidator Control
- CustomFieldValidator Control
- **ValidationSummary**

Explain GridView control in ASP.NET?

Answer: The GridView control displays the values of a data source in a table. Each column represents a field, while each row represents a record. The GridView control supports the following features,

- Binding to data source controls, such as SqlDataSource.
- Built-in sort capabilities.
- Built-in update and delete capabilities.
- Built-in paging capabilities.
- Built-in row selection capabilities.
- Programmatic access to the GridView object model to dynamically set properties, handle events, and so on.
- Multiple key fields.
- Multiple data fields for the hyperlink columns.
- Customizable appearance through themes and styles.

Creating a GridView

```
1. <asp:GridView ID="gridService" runat="server">  
</asp:GridView>
```

What is the PostBack property in ASP.NET?

Answer: If we create a web Page, which consists of one or more Web Controls that are configured to use AutoPostBack (every Web controls will have their own AutoPostBack property), the ASP.NET adds a special JavaScript function to the rendered HTML Page. This function is named

`_doPostBack()` . When Called, it triggers a PostBack, sending data back to the web Server.

ASP.NET also adds two additional hidden input fields that are used to pass information back to the server. This information consists of ID of the Control that raised the event and any additional information if needed. These fields will empty initially as shown below,

```
1. <input type="hidden" name="__EVENTTARGET" id="__EVENTTARGET" value="" />
2. <input type="hidden" name="__EVENTARGUMENT" id="__EVENTARGUMENT" value="" />
```

The following actions will be taken place when a user changes a control that has the `AutoPostBack` property set to true:

1. On the client side, the JavaScript `_doPostBack` function is invoked, and the page is resubmitted to the server.
2. ASP.NET re-creates the Page object using the .aspx file.
3. ASP.NET retrieves state information from the hidden view state field and updates the controls accordingly.
4. The Page.Load event is fired.
5. The appropriate change event is fired for the control. (If more than one control has been changed, the order of change events is undetermined.)
6. The Page.PreRender event fires, and the page is rendered (transformed from a set of objects to an HTML page).
7. Finally, the Page.Unload event is fired.
8. The new page is sent to the client.

What are master pages?

Answer

Some points about Master Pages,

1. The extension of MasterPage is '.master'.
2. MasterPage cannot be directly accessed from the client because it just acts as a template for the other Content Pages.
3. In a MasterPage we can have content either inside ContentPlaceHolder or outside it. Only content inside the ContentPlaceHolder can be customized in the Content Page.
4. We can have multiple masters in one web application.
5. A MasterPage can have another MasterPage as Master to it.
6. The content page content can be placed only inside the content tag.
7. Controls of MasterPage can be programmed in the MasterPage and content page but a contentpage control will never be programmed in MasterPage.
8. A master page of one web application cannot be used in another web application.
9. The MasterPageFile property of a webform can be set dynamically and it should be done either in or before the Page_PreInit event of the WebForm. `Page.MasterPageFile = "MasterPage.master"`. The dynamically set Master Page must have the ContentPlaceHolder whose content has been customized in the WebForm.
10. The order in which events are raised: Load (Page) a Load (Master) a LoadComplete (Page) i.e. if we want to overwrite something already done in Load event handler of Master then it should be coded in the LoadComplete event of the page.
11. Page_Load is the name of method for event handler for Load event of Master. (it's not Master_Load).

ASP.NET Overview

Here are some points that give a quick overview of ASP.NET.

- ASP.NET provides services to allow the creation, deployment, and execution of Web Applications and Web Services.
- Like ASP, ASP.NET is a server-side technology.
- Web Applications are built using Web Forms. ASP.NET comes with built-in Web Forms controls, which are responsible for generating the user interface. They mirror typical HTML widgets like text boxes or buttons. If these controls do not fit your needs, you are free to create your own user controls.
- Web Forms are designed to make building web-based applications as easy as building Visual Basic applications.

What are the different validators in ASP.NET?

Answer: ASP.NET validation controls define an important role in validating the user input data. Whenever the user gives the input, it must always be validated before sending it across to various layers of an application. If we get the user input with validation, then chances are that we are sending the wrong data. So, validation is a good idea to do whenever we are taking input from the user.

There are the following two types of validation in ASP.NET,

- Client-Side Validation
- Server-Side Validation

Client-Side Validation

When validation is done on the client browser, then it is known as Client-Side Validation. We use JavaScript to do the Client-Side Validation.

Server-Side Validation

When validation occurs on the server, then it is known as Server-Side Validation. Server-Side Validation is a secure form of validation. The main advantage of Server-Side Validation is if the user somehow bypasses the Client-Side Validation, we can still catch the problem on server-side.

The following are the Validation Controls in ASP.NET,

- RequiredFieldValidator Control
- CompareValidator Control
- RangeValidator Control
- RegularExpressionValidator Control
- CustomFieldValidator Control
- ValidationSummary

What are the different Session state management options available in ASP.NET?

Answer: State Management in ASP.NET

- A new instance of the Web page class is created each time the page is posted to the server.
- In traditional Web programming, all information that is associated with the page, along with the controls on the page, would be lost with each roundtrip.
- The Microsoft ASP.NET framework includes several options to help you preserve data on both a per-page basis and an application-wide basis.

These options can be broadly divided into the following two categories,

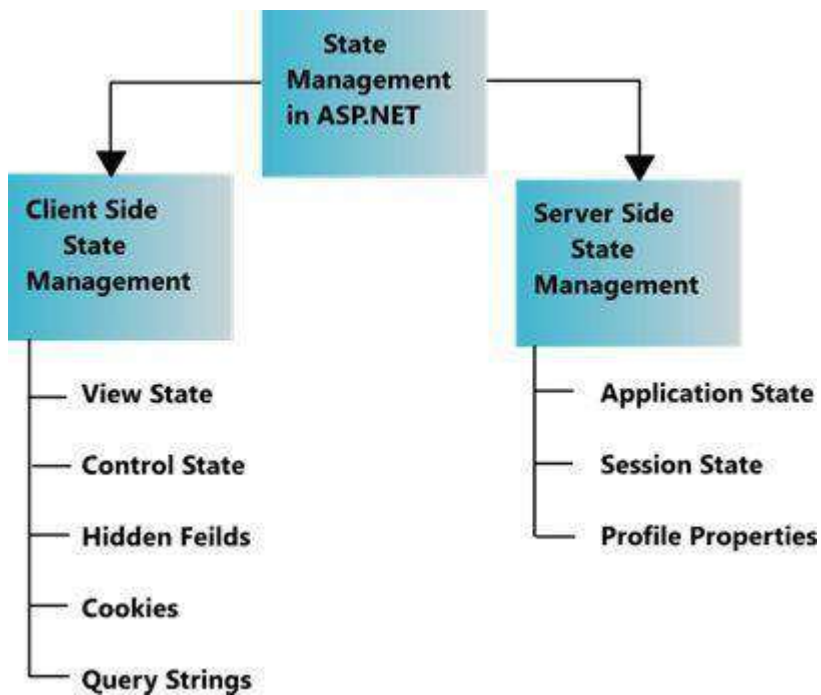
- Client-Side State Management Options
- Server-Side State Management Options

Client-Side State Management

- Client-based options involve storing information either in the page or on the client computer.
- Some client-based state management options are,
 - Hidden fields
 - View state
 - Cookies
 - Query strings

Server-Side State Management

- There are situations where you need to store the state information on the server side.
- Server-side state management enables you to manage application-related and session-related information on the server.
- ASP.NET provides the following options to manage state at the server side:
 - Application state
 - Session state



What is caching in ASP.NET?

Answer: Caching is one of the most interesting concepts and operations in ASP.NET. If you can handle it, you can run any web application by applying the caching concept depending on the requirements.

Caching is for providing solutions or the results to the users depending on their request, admin needs to recreate the pages often depending on user requests...STOP!!! "A cache simply stores the output generated by a page in the memory and this saved output (cache) will serve us (users) in the future."

Types



What is Ajax in ASP.NET?

Answer. Ajax stands for Asynchronous JavaScript and XML; in other words Ajax is the combination of various technologies such as a JavaScript, CSS, XHTML, DOM, etc.

AJAX allows web pages to be updated asynchronously by exchanging small amounts of data with the server behind the scenes. This means that it is possible to update parts of a web page, without reloading the entire page.

We can also define Ajax as a combination of client-side technologies that provides asynchronous communication between the user interface and the web server so that partial page rendering occurs instead of a complete page postback.

Ajax is platform-independent; in other words, AJAX is a cross-platform technology that can be used on any Operating System since it is based on XML & JavaScript. It also supports open source implementation of other technology. It partially renders the page to the server instead of the complete page being post back. We use AJAX for developing faster, better and more interactive web applications. AJAX uses an HTTP request between web server & browser.

- With AJAX, when a user clicks a button, you can use JavaScript and DHTML to immediately update the UI, and spawn an asynchronous request to the server to fetch results.
- When the response is generated, you can then use JavaScript and CSS to update your UI accordingly without refreshing the entire page. While this is happening, the form on the user's screen doesn't flash, blink, disappear, or stall.

- The power of AJAX lies in its ability to communicate with the server asynchronously, using a XMLHttpRequest object without requiring a browser refresh.
- Ajax essentially puts JavaScript technology and the XMLHttpRequest object between your Webform and the server.

What are the data controls available in ASP.NET?

Answer: The Controls having DataSource Property are called Data Controls in ASP.NET.

ASP.NET allows a powerful feature of data binding, you can bind any server control to simple properties, collections, expressions and/or methods. When you use data binding, you have more flexibility when you use data from a database or other means.

Data Bind controls are container controls.

Controls -> Child Control

Data Binding is binding controls to data from databases. With data binding we can bind a control to a particular column in a table from the database or we can bind the whole table to the data grid.

Data binding provides simple, convenient, and powerful way to create a read/write link between the controls on a form and the data in their application.

Data binding allows you to take the results of properties, collection, method calls, and database queries and integrate them with your ASP.NET code. You can combine data binding with Web control rendering to relieve much of the programming burden surrounding Web control creation. You can also use data binding with ADO.NET and Web controls to populate control contents from SQL select statements or stored procedures.

Data binding uses a special syntax

`<%# %>`

The `<%#`, which instructs ASP.NET to evaluate the expression. The difference between a data binding tags and a regular code insertion tags `<%` and `%>` becomes apparent when the expression is evaluated. Expressions within the data binding tags are evaluated only when the `DataBind` method in the Page objects or Web control is called.

Data Bind Control can display data in connected and disconnected model.

Following are data bind controls in ASP.NET,

- Repeater Control
- DataGrid Control
- DataList Control
- GridView Control
- Details View
- FormView
- DropDownList
- ListBox
- RadioButtonList
- CheckBoxList
- BulletList etc.

What is the use of CheckBox in .NET?

Answer: The CheckBox control is a very common control of HTML, unlike radio buttons it can select multiple items on a webpage. The CheckBox control in ASP.NET has many properties and some of them are listed below.

Property	Description
AutoPostBack	Specifies whether the form should be posted immediately after the Checked property has changed or not. The default is false.
CausesValidation	Specifies if a page is validated when a Button control is clicked.
Checked	Specifies whether the check box is checked or not.
InputAttributes	Attribute names and values used for the Input element for the CheckBox control.
LabelAttributes	Attribute names and values used for the Label element for the CheckBox control.
runat	Specifies that the control is a server control. Must be set to "server".
Text	The text next to the check box.
TextAlign	On which side of the check box the text should appear (right or left).
ValidationGroup	Group of controls for which the Checkbox control causes validation when it posts back to the server.
OnCheckedChanged	The name of the function to be executed when the Checked property has changed.

What is the code behind and Inline Code?

Answer

Code Behind

Code Behind refers to the code for an ASP.NET Web page that is written in a separate class file that can have the extension of .aspx.cs or .aspx.vb depending on the language used. Here the code is compiled into a separate class from which the .aspx file derives. You can write the code in a separate .cs or .vb code file for each .aspx page. One major point of Code Behind is that the code for all the Web pages is compiled into a DLL file that allows the web pages to be hosted free from any Inline Server Code.

Inline Code

Inline Code refers to the code that is written inside an ASP.NET Web Page that has an extension of .aspx. It allows the code to be written along with the HTML source code using a <Script> tag. Its major point is that since it's physically in the .aspx file it's deployed with the Web Form page whenever the WebPage is deployed.

What is a Virtual Method in C#?

A virtual method is a method that can be redefined in derived classes. A virtual method has an implementation in a base class as well as derived the class. It is used when a method's basic

functionality is the same but sometimes more functionality is needed in the derived class. A virtual method is created in the base class that can be overridden in the derived class. We create a virtual method in the base class using the virtual keyword and that method is overridden in the derived class using the override keyword.

When a method is declared as a virtual method in a base class then that method can be defined in a base class and it is optional for the derived class to override that method. The overriding method also provides more than one form for a method. Hence, it is also an example of polymorphism.

When a method is declared as a virtual method in a base class and that method has the same definition in a derived class then there is no need to override it in the derived class. But when a virtual method has a different definition in the base class and the derived class then there is a need to override it in the derived class.

When a virtual method is invoked, the run-time type of the object is checked for an overriding member. The overriding member in the most derived class is called, which might be the original member if no derived class has overridden the member.

Virtual Method

1. By default, methods are non-virtual. We can't override a non-virtual method.
2. We can't use the virtual modifier with static, abstract, private or override modifiers.

What is LINQ in C#?

LINQ stands for Language Integrated Query. LINQ is a data querying methodology that provides querying capabilities to .NET languages with a syntax similar to a SQL query.

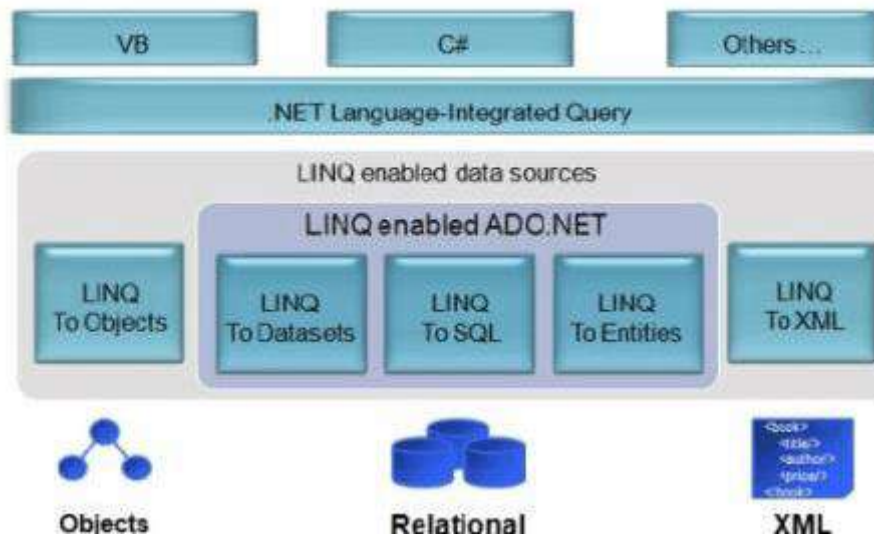
LINQ has a great power of querying on any source of data. The data source could be collections of objects, database or XML files. We can easily retrieve data from any object that implements the `IEnumerable<T>` interface.

Advantages of LINQ

1. LINQ offers an object-based, language-integrated way to query over data no matter where that data came from. So through LINQ, we can query database, XML as well as collections.
2. Compile-time syntax checking.

3. It allows you to query collections like arrays, enumerable classes, etc... in the native language of your application, like in VB or C# in much the same way you would query a database using SQL.

LINQ Overview



What are the different types of classes in C#?

Ans: The different types of class in C# are:

- **Partial class** – Allows its members to be divided or shared with multiple .cs files. It is denoted by the keyword *Partial*.
- **Sealed class** – It is a class which cannot be inherited. To access the members of a sealed class, we need to create the object of the class. It is denoted by the keyword *Sealed*.
- **Abstract class** – It is a class whose object cannot be instantiated. The class can only be inherited. It should contain at least one method. It is denoted by the keyword *abstract*.
- **Static class** – It is a class which does not allow inheritance. The members of the class are also static. It is denoted by the keyword *static*. This keyword tells the compiler to check for any accidental instances of the static class.

How is Exception Handling implemented in C#?

Ans: Exception handling is done using four keywords in C#:

- **try** – Contains a block of code for which an exception will be checked.
- **catch** – It is a program that catches an exception with the help of exception handler.
- **finally** – It is a block of code written to execute regardless whether an exception is caught or not.
- **Throw** – Throws an exception when a problem occurs.

What is ASP.NET? Explain IT'S Architecture

Explain Different types of operators in C#. Net

Explain Different types of Methods in C#. Net

Explain Different types of Exception Handling

Short Notes:

- 1) Toolbox
- 2) Property Window

- 3) **Solution Explorer**
- 4) **Server Explorer**
- 5) **Explain any four Controls**
- 6) **Store Procedure**
- 7) **Code behind**
- 8) **Design View**
- 9) **MVC**
- 10) **Table Attribute**
- 11) **Simple Form Design Code**
- 12) **Inheritance and Polymorphism**
- 13) **Validation Controls**
- 14) **Master Page**
- 15) **Data Type**
- 16) **Data Adapter**
- 17) **Data Reader**
- 18) **Dataset**
- 19) **Standard Controls**
- 20) **Primary Key**

19) Standard Controls

Name explains everything. This section includes list of controls which is widely used.

- **Pointer:** It is just a pointer. If we drag any other control on form it causes to create that control on form but pointer does not create any control on form. In other word we can say, we select it for to ignore any other selected control.
- **AdRotator:** This control is used to display the image adds on web page. We can use multiple images and multiple urls. This control can be controlled by xml or any other database very easily. Assume that we have an area on web page where we want to display adds of our four clients then we can use the advantage of this control.
- **BulletedList:** This control is used to display list of items with bullets. We can connect this control to database to display list items.
- **Button:** Very widely used control. Writing some lines about this control is very tinny thing. It is used everywhere like have to submit form, login, delete, create user, etc.
- **Calendar:** This control is used to pick the correct format of date. If we want to pick the date in text box then we have to write `TextBox1.Text=Calendar1.SelectedDate` in `SelectionChanged` event of Calendar.
- **CheckBox:** This control is used to accept the data in true/false or say in yes/no Boolean format. Like if we checked it then it says true or yes. By default its checked property is false but we can set it to true. CheckBox cannot be bind with database.
- **CheckBoxList:** This control also works as checkbox as given above but it has some more properties like, it can have collection of check boxes, and one great advantage, it has database binding property.

- **DropDownList:** This control is used to select any one item from list of items. We can not select multiple items from dropdownlist. It has also database binding property.
- **FileUpload:** This control is used to upload any type of file. After writing some code behind it only selects specified format of files, like we can set it to select only jpg and gif files. It provides the user a way to send the file to any other computer using internet.
- **HiddenField:** This control gives the developer a way to store information without displaying it on the page or say to user. Mostly it is used to store the states.
- **HyperLink:** This control is used to link any other page. Like when user clicks on Home page it navigates to home.aspx page, this is because of hyperlink feature.
- **Image:** This control is used to display the image on the form. Like if you open any community website and have look your image means they have used image control. Using ImageUrl property we can change the image.
- **ImageButton:** This control look like button control but it has image. We simply click on image and works like button control. We can set its image using ImageUrl property.
- **ImageMap:** This control is also known as hot spot control. We can categories any one in image into multiple sections or say regions and each section (regions) has different urls.
- **Label:** This control is mostly used to display texts con form. Programmatically we can hide/unhide or set the text for label, and this feature helps the developer to display some message when any task completed.
- **LinkButton:** This controls works like hyperlink button. It is mostly used to post back a form to server.
- **ListBox:** This control is used to select one or more items from predefined items. It has same properties list as combo box but combo box can't select multiple items. Change SelectionMode property to multiple in ListBox for multiple selections.
- **Literal:** This control is used to display text directly to client browsers. It works as container and we can't apply any style to it.
- **Localize:** This control is used to display localize text anywhere in browser. This control has only two properties Text and ID. We also can't apply any style to this control.
- **MultiView:** This control is used to display different view to different client based on some criteria.
- **Panel:** This control is very useful because it works like container of every control. Assume we have very long content page and wishing to display it in very short area on web page, surely we can use it by enabling ScrollBars property.
- **PlaceHolder:** This control is used to place new controls dynamically or say at run time. It is simply a place of control which only results at run time.
- **RadioButton:** This control is used to accept the data in true/false or say in yes/no Boolean format. Like if we select it then it says true or yes. By default its checked property is false but we can set it to true. RadioButton cannot be bind with database.
- **RadioButtonList:** This control also works as RadioButton as given above but it has some more properties like, it can have collection of radio buttons, and one great advantage that it has database binding property.
- **Substitution:** This control is very famous in advertise or news portals where some area of web page are

frequently changes, it is no mean visitor is refreshing the page or navigating or not.

- **Table:** This control enables us to create table on web page. We can create row or columns in table.
 - **TextBox:** This control is used to enter information for processes. Like if we are wishing to create a web page where user can enter his username and password, surely take the advantage of text box here. We can change the TextBox TextMode property by SingleLine, MultiLine or Password.
 - **View:** This control also works as container of another control on web page. It only works with MultiView control.
 - **Wizard:** This control is very useful when we wish to create any form which has multiple steps or say multiple sections on the same form. It mostly used to collection the user information.
 - **Xml:** This control is mostly used to display the xml content or to display the result of xsl transformation on the web page.
- 1) Toolbox:** is very-very important building block of .NET Framework. Toolbox is an area where all the controls existed. It helps the developer to develop any application very quickly, only drag the control from the toolbox and drop it on the form. To change its properties we have to select the control and make the properties changes from Properties window. We can do it manually by writing code-behind. There are over 100 controls available in ASP.NET 4.0. I am listing here all the controls available in ASP.NET 4.0 and writing some lines on each of them.

2) Property window is the collective name for the following types of user interfaces (UIs): **Property sheet:** used to view and change **properties** for an object or collection of objects in a dialog box. **Property inspector:** used to view and change **properties** for an object or collection of objects in a pane.

3) Solution Explorer

Solution Explorer is a window within the VS.NET editor, which allows you to manage various files part of the solution (web site). This windows displays all the files part of the web site. You may select any file and view properties, rename, delete or move to other folders through the solution explorer.

By default, Solution Explorer is located on the top right corner of the VS.NET editor. This windows may be minimized on the top right bar. If for some reason, you cannot view the solution explorer, go to the menu and select "View > Solution Explorer". This will launch the solution explorer window.

4) Server Explorer: The Server Explorer is a shortcut to accessing servers, either installed on the system, or connected to the system. These servers are usually database servers such as SQL Server. By accessing the server, you access all the databases on the specific server, and then you can build the connections needed inside your program, for your program. You also can get access to SharePoint servers. I will touch on SharePoint a little bit later, but for now, I will

concentrate on using the Server Explorer with an SQL Server, and then move on to the inner workings of the Server Explorer.

5) Code Behind refers to code for ASP.NET page which is contained within a separate class file. It is composed in a different class record that can have the extension of .aspx.cs or .aspx.vb relying upon the language used. It allows a clean separation of HTML from the presentation logic. In the code-behind file, you create a class (which can be any class derived from the Page class) that serves as the base class for the web page you create in the .aspx file. This relationship between your class and the web page is established by a Page directive at the top of the .aspx file

6) Design View allows end-users to modify the editor content using various **design** tools, and instantly **see** the results. **Design view** area availability is controlled by the ASPxHtmlEditorSettings.....In this **view**, the editor can display the following elements.

7) MVC stands for Model, View and Controller. MVC separates application into three components - Model, View and Controller.

Model: Model represents shape of the data and business logic. It maintains the data of the application. Model objects retrieve and store model state in a database.

Model is a data and business logic.

View: View is a user interface. View display data using model to the user and also enables them to modify the data.

View is a User Interface.

Controller: Controller handles the user request. Typically, user interact with View, which in-turn raises appropriate URL request, this request will be handled by a controller. The controller renders the appropriate view with the model data as a response.

8) Table Attribute

CONTROL	CODE	DESCRIPTION
Table	<asp:Table>	The System.Web.UI.Table class encapsulates an HTML table. An HTML table control, used to creates a table with the help of TableRow and TableCell.
TableRow	<asp:TableRow >	The System.Web.UI.TableRow class encapsulates a row within a table, which later can be used to get or set row's cells values using TableCell.

TableCell	<asp:TableCell>	The System.Web.UI.TableCell class encapsulates a cell within a table.
TableRowCollection	<asp:TableRowCollection>	The System.Web.UI.TableCell class encapsulates a TableRowCollection and is used to manage a collection of table a

		collection or removing a row from it.
TableCellCollection	<asp:TableCellCollection>	Manages a collection of table cells such as adding a cell to a row or removing a cell from it.
TableHeaderCollection	<asp:TableHeaderCell>	Encapsulate a table header cell.

Simple Form Design

```

1. <form id="form1" runat="server">
2.     <div>
3.         <table class="auto-style1">
4.             <tr>
5.                 <td>Name :</td>
6.                 <td>
7.                     <asp:TextBox ID="TextBox1" runat="server"></asp
:TextBox>
8.                 </td>
9.
10.            </tr>
11.            <tr>
12.                <td>Password</td>
13.                <td> <asp:TextBox ID="TextBox2" runat="server
"></asp:TextBox></td>
14.            </tr>
15.            <tr>
16.                <td>Confirm Password</td>
17.                <td>
18.                    <asp:TextBox ID="TextBox3" runat="server"
TextMode="Password"></asp:TextBox>
19.                </td>
20.            </tr>
21.            <tr>
22.                <td>City</td>
23.                <td>
24.                    <asp:DropDownList ID="DropDownList1" runat
="server">
25.                        <asp:ListItem Text="Select City" Value
="select" Selected="True"></asp:ListItem>
26.                        <asp:ListItem Text="Bangalore" Value="
Bangalore"></asp:ListItem>
27.                        <asp:ListItem Text="Mysore" Value="Mys
ore"></asp:ListItem>
28.                        <asp:ListItem Text="Hubli" Value="hubl
i"></asp:ListItem>
29.                    </asp:DropDownList>
30.                </td>
31.            </tr>

```

```

32.         <tr>
33.             <td>Gender</td>
34.             <td>
35.                 <asp:RadioButtonList ID="RadioButtonList1"
runat="server">
36.                     <asp:ListItem>Male</asp:ListItem>
37.                     <asp:ListItem>Female</asp:ListItem>
38.                 </asp:RadioButtonList>
39.             </td>
40.         </tr>
41.         <tr>
42.             <td>Gmail</td>
43.             <td>
44.                 <asp:TextBox ID="TextBox4" runat="server">
</asp:TextBox>
45.             </td>
46.         </tr>
47.         <tr>
48.             <td>
49.                 <asp:Button ID="Button1" runat="server" Te
xt="Button" />
50.             </td>
51.         </tr>
52.     </table>
53. </div>
54. </form>

```

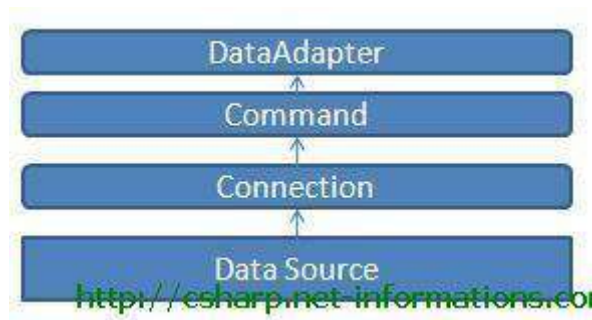
Data Type

Type	Represents	Range	Default Value
bool	Boolean value	True or False	False
byte	8-bit unsigned integer	0 to 255	0
char	16-bit Unicode character	U +0000 to U +ffff	'\0'
decimal	128-bit precise decimal values with 28-29 significant digits	$(-7.9 \times 10^{28}$ to $7.9 \times 10^{28}) / 10^0$ to 28	0.0M
double	64-bit double-precision floatingpoint type	$(+/-)5.0 \times 10^{-324}$ to $(+/-)1.7 \times 10^{308}$	0.0D
float	32-bit single-precision floatingpoint type	-3.4×10^{38} to $+3.4 \times 10^{38}$	0.0F

int	32-bit signed integer type	-2,147,483,648 to 2,147,483,647	0
long	64-bit signed integer type	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807	0L
sbyte	8-bit signed integer type	-128 to 127	0
short	16-bit signed integer type	-32,768 to 32,767	0
uint	32-bit unsigned integer type	0 to 4,294,967,295	0
ulong	64-bit unsigned integer type	0 to 18,446,744,073,709,551,615	0
ushort	16-bit unsigned integer type	0 to 65,535	0

C# ADO.NET DataAdapter

DataAdapter is a part of the ADO.NET Data Provider. DataAdapter provides the communication between the DataSet and the Datasource. We can use the DataAdapter in combination with the DataSet Object. DataAdapter provides this combination by mapping Fill method, which changes the data in the DataSet to match the data in the data source, and Update, which changes the data in the data source to match the data in the DataSet. That is, these two objects combine to enable both data access and data manipulation capabilities.



ADO.NET DataReader

ADO.NET DataReader object is used for accessing data from the data store and is one of the two mechanisms that ADO.NET provides. As we will remember DataReader object provides a read only, forward only, high performance mechanism to retrieve data from a data store as a data stream,

while staying connected with the data source. The DataReader is restricted but highly optimized. The .NET framework provides data providers for SQL Server native OLE DB providers and native ODBC drivers,

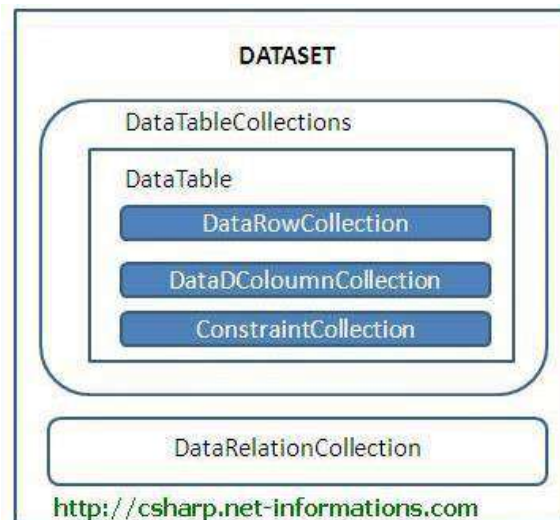
- SqlDataReader
- OleDbDataReader
- OdbcDataReader

You can use the ADO.NET DataReader to retrieve a read-only, forward-only stream of data from a database. Using the DataReader can increase application performance and reduce system overhead because only one row at a time is ever in memory. After creating an instance of the Command object, you create a DataReader by calling Command.ExecuteReader to retrieve rows from a data source, as shown in the following example.

```
1. SqlDataReader myReader = myCommand.ExecuteReader();
```

What is C# ADO.NET Dataset

The ADO.NET DataSet contains DataTableCollection and their DataRelationCollection . It represents a collection of data retrieved from the Data Source. We can use DataSet in combination with DataAdapter Class . The DataSet object offers a disconnected data source architecture. The DataSet can work with the data without knowing the source of the data coming from. That is , the DataSet can work with a disconnected mode from its Data Source . It gives a better advantage over DataReader , because the DataReader is working only with the connection oriented Data Sources.



Primary Key

A primary key is a field in a table which uniquely identifies each row/record in a database table. Primary keys must contain unique values. A primary key column cannot have NULL values.

A table can have only one primary key, which may consist of single or multiple fields. When multiple fields are used as a primary key, they are called a composite key.

If a table has a primary key defined on any field(s), then you cannot have two records having the same value of that field(s).

Question Bank

VS 344: Advanced SQL with Oracle

Que .Answer the following [8 Marks]

1. What is Indexes? Explain types of indexes.
2. What are DBMS. Write advantages and disadvantages of DBMS?
3. Explain PL/SQL Block in brief
4. Write any 5 clauses with syntax & example.
5. Write difference between primary indexing and secondary indexing.
6. What are the file processing Disadvantages?
7. What is Table & explain all the keys available in SQL?
8. Explain Stored Procedure in brief.
9. Explain Data Dictionary in brief.
10. What is Normalization? Explain 1NF,2NF,3NF,BCNF
11. What are DML. Explain DML commands in brief?
12. Explain ER-Diagram. Draw ER Diagram for Exam management System.
13. Explain trigger in brief.
14. Explain Exception handling in PL/SQL with example.
15. Explain operation performed on View with example.
16. What are DBMS. Write advantages & disadvantages of DBMS?
17. What is ER Diagram? Explain all notations and type of Entities.
18. Write operations performed on Cursor with example.
19. Explain Join and type of Outer join in brief.
20. Write DDL commands with examples.
21. What is View? Explain in brief.
22. What is File processing system? Explain disadvantages.
23. Explain Aggregate Function with syntax and Example.
24. Explain Control Structures in PL/SQL Block.
25. Write difference between Clusters indexing and Non-Cluster indexing.
26. What is ER Diagram? Explain all notations and type of Entities.
27. What is Cursor? Explain type of cursor.
28. Explain Database Triggers in brief.
29. Write any 5 clauses with examples.

Que .Answer the following question [2 Marks]

1. What is Data integrity?
2. Define Super Key.
3. Define Group by Clause

4. What is Normalization?
5. What is file?
6. What is multivalued attribute Attribute?
7. What is Many to many Relationships?
8. Define foreign key.
9. What is Table?
10. Define Super Key.
11. Define Group by Clause
12. What is Weak Entity?
13. What is Secondary Key?
14. What is Attribute?
15. What is one to Many Relationship?
16. Define Join.
17. What is Database Management System?
18. Define primary key.
19. Define Order by Clause
20. What is Entity?
21. What is Alternate Key?
22. What is Attributing?
23. What is Relationship?
24. Define View.

Que. Write a short note on [4 marks]

1. Data Abstraction
2. ER-Diagram
3. Exception handling in PL/SQL block
4. Data types in Database
5. Types of Views
6. De normalization
7. Updating view
8. Data Dictionary
9. DDL commands
10. Three level schema architecture
11. Updating view
12. Data integrity rules
13. Types of Triggers
14. Type of Cursor
15. Exception in Stored Procedure

16. Advantages of DBMS

17. Disadvantages of DBMS

18. PL/SQL block

B.Voc.II/ Software Development (Semester-IV) Examination
Computer Hardware and Maintenance (VS 345)
Subject Code:80036

Q.1) Answer the following questions.

[2 marks]

1. What is a computer?
2. Explain the term Hardware.
3. What are the two types of Software.
4. What are tape drives?
5. What are SMPS motherboard?
6. Explain the term cache memory.
7. What is static memory allocation?
8. What is VDU?
9. Explain the term Software.
10. What is a computer?
11. What are disk drives?
12. What is motherboard?
13. Explain the term primary memory.
14. What is dynamic memory allocation?
15. What is GUI?
16. What is application Software.
17. What is volatile memory?
18. What is CMOS?
19. What are the cursor or navigation keys?
20. What is a network?

Q.2) Answer the following questions.

[8 marks]

1. Draw and explain the block diagram architecture of motherboard.
2. What is memory? Explain different types of memories.
3. Differentiate between RAM & ROM.
4. Draw and explain in detail the working of input device mouse.
5. Draw and explain the input device keyboard in detail with the keys on it.
6. Explain in brief the various bus standards like ISA, EISA, VL, etc.
7. Draw and explain the types of monitors in detail.
8. Explain the concept of hard disk drives along with its types.
9. Explain the various types of maintenance for memory.
10. Explain in detail the assembly and disassembly of PC and its various parts.
11. Draw and explain in detail the PC/AT motherboards.
12. Explain in detail what is CMOS? Enlist the steps in setup of CMOS.
13. Explain in detail the concept of expanded memory.
14. Explain in detail the concept of shadow memory.
15. Describe various types of hard disk drive in detail.

16. Enlist and explain in detail various memory units.
17. Explain in detail the concept of DIMMs, RIMMs
18. Explain in detail the concept partitioning and handling of hard disk drive.
19. Explain the output device printer.
20. Explain the types of impact and non-impact printer.

Q.3) Answer the following questions.

[4 marks]

1. Explain the concept of startup problems.
2. Explain DVD in detail.
3. Features of CMOS.
4. Types of formatting.
5. What are display cards.
6. What is physical memory.
7. Explain in detail the concept of SIMMs
8. Explain conventional base memory
9. Explain General Troubleshooting
10. Explain Preventive break down maintenance
11. Explain break down maintenance
12. Write a note on hard disk drive.

-----XXXX-----