

# VU Answer

## FINALTERM EXAMINATION

Spring 2010

**Question No: 1 ( Marks: 2 )**

**What is the difference between 'single-line text input field' and 'password input field' ?**

**ANS:-**

A Password Field is good for sensitive information. The only item that is absolutely necessary is the Submit Button. It is a good idea to include a Reset Button for the convenience of the user.

A text field gathers information using a single line of text. This field is useful for short answers. The default text field is blank. If you want to specify default text, use the VALUE attribute. .

**Question No: 2 ( Marks: 2 )**

**What is internet?**

**ANS:-**

Internet is also called WAN, which means the interconnection of large number of computer networks and it consists of millions of private, public, academic, business, and government networks of local to global scope that are linked by a broad array of electronic and optical networking technologies.

**Question No: 3 ( Marks: 2 )**

**In JavaScript, what is event handling? What are the two types of events?**

**ANS:-**

Event handling means capturing an event and responding to that.

Events e.g. onMouseOver, OnClick, onLoad, Onunload, updating the clock etc. are captured by the Java script & according to the programs they are responded accordingly

**Question No: 4 ( Marks: 3 )**

**Differentiate between onLoad and onUnload**

**ANS:-**

**On load** event is used when the page is load in the browser while on the other side **onUnload** event works when the page closes down.

**Question No: 5 ( Marks: 3 )**

**Elaborate Raster Graphics with examples.**

**ANS:-**

Raster graphics are digital images created or captured (for example, by scanning in a photo) as a set of samples of a given space . A raster file is usually larger than a vector graphics image file. A raster file is usually difficult to modify without loss of information.

Examples of raster image file types are: BMP, TIFF, GIF, and JPEG files.

**Question No: 6 ( Marks: 5 )**

**What is a Relational Database? Give the names of any three RDBMS software. (2+3)**

**ANS:-**

Database architecture consists of three levels, external, conceptual and internal. Clearly separating the three levels was a major feature of the relational database.

**NAMES:**

Oracle Database software, Linux, and oracle e business database software , and Oracle OLAP.

**Question No: 7 ( Marks: 5 )**

**What do you mean by the term 'Telepresence' in Computing World?**

**ANS:-**

**Telepresence**

- Being there, without physically being there!
- Two remotely located people, with the help of special equipment, immersed in a simulated 3-D environment where they interact like they are sitting next to each other
- Chatting, a telephone conversation, or even a videoconference are examples, but in a degraded sense of the idea

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**Question No: 27 ( Marks: 2 )**

**What is a function? Give one example.**

**ANS:-**

Function is a reusable code (group of statement) that is executed when the function is called. It is also known as sub-program. Function is normally defined in the head section of the code.

**Question No: 28 ( Marks: 2 )**

**What is an intelligent system?**

**ANS:-**

Intelligent systems are the programs developed to perform complicated jobs that reflect human brain and thoughts. If the algorithms are too much complex or can not be solved instantly then we can use such systems. Therefore the well intelligent system not only performs well but it has the capability to rectify any errors by himself if it occurs within his domain.

The examples of intelligent systems are Robotics, Business Intelligence ...etc.

**Question No: 29 ( Marks: 2 )**

**What is meant by semantic error ?**

**ANS:-**

It is an error which a developer encounters when a statement is executed but it was not intended by him (the developer). Such errors are very difficult to locate during testing. Mostly these occur during abnormal circumstances. It may be referred as the logical error.

**Question No: 30 ( Marks: 2 )**

**What is best algorithm?**

**ANS:-**

Greedy algorithm is the best algorithm as it is n algorithm that always takes the best immediate, or local solution while finding an answer.

**Question No: 32 ( Marks: 3 )**

**What are the Sub categories of Artificial Intelligence? Briefly explain any two.**

**ANS:-**

1. Robotics

These are the machines which are computer programmed and perform work which was previously done by humans. They can be found in the manufacturing industry, the military, space exploration and medical applications.

## 2. Expert Systems

These systems are designed to replace an expert. The medical expert system is an example of such system which can replace a Doctor/medical expert.

**Question No: 33 ( Marks: 3 )**

**What are the steps of working of TCP and IP protocols in internet transmission?**

**ANS:-**

TCP divide messages in to many packets (capsulation) and sent these messages over the internet and IP route these messages on the internet to the correct destination and upon reaching the messages on its destination the messages are encapsulated.

**Question No: 34 ( Marks: 5 )**

**What is ARPANET and who developed it?**

**ANS:-**

ARPANET stands for Advanced Research Projects. The initial purpose was to communicate with and share computer resources among mainly scientific users at the connected institutions. In the beginning it was connected four universities and enabled scientists to share resources.

It was headed by Dr. J.C.R. Licklider.

**Question No: 35 ( Marks: 5 )**

**Define professional ethics and its benefits with an example?**

**ANS:-**

### **Professional Ethics**

- Professional ethics are a category of ethics, and here we discuss the professional ethics relevant to computing
- Awareness of professional ethics is gaining importance with time as the decisionmaking process in the work place keeps on increasing in complexity
- The professional ethics provide a way of simplifying that decision making process

Let us now discuss a few situations where I will request you for your ethical opinions

**Question No: 36 ( Marks: 5 )**

**Write JavaScript code for the following:**

**Make a function compareWithTen(value)**

**Compare the function argument with '10' and display a message whether the value is less than, equal to or greater than 10.**

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**Question No: 27 ( Marks: 2 )**

**What are application softwares? List down the names of three application softwares.**

**ANS:-**

Definition: Application Software are that software then can interact directory with the user for performance of respective type of work.

Following are the types of Application Softwares:-

- AutoCAD and Corel Draw
- Business Software
- Productivity SW
- Games Software

**Question No: 28 ( Marks: 2 )**

**Why Local variable is preferred over Global variable ?**

**ANS:-**

Global variable has some advantage with Local variables is preferred due to the following reasons:-  
When we declare any global variable in web page then in case of error and logic it's very difficult to see on which line this variable is used and what's his value if we have more than 2000 lines and all the functions in web page using that Global Variable so Global variables can make the logic of a Web page difficult to understand.  
As we know we can use Global variable everywhere so Global variables also make the reuse and maintenance of your code much more complex.

**Question No: 30 ( Marks: 2 )**

**What is Structured Vector Graphics ?**

**ANS:-**

This is a plug-in that is required to view swf (flash) files in the web browser

**Question No: 31 ( Marks: 3 )**

**What kind of new jobs are created because of computing? And which old professions are being eliminated?**

**ANS:-**

Due to computing where people are getting benefits from automated systems on the other hand the people that are with KHATA system or Manual system and they don't know about computers are eliminated due to this reason and people take place of many people. We can see in the offices where before computer if there are four person required now only one person is required for example with the help of database we can store more than thousand of information and only one person is managing the whole data that is DBA. In the old system many people are writing the data in registers and then its also very difficult to find the specific record.

**Now we can see companies are hiring:-**

**Data Entry Operators**  
**System Engineers**  
**Software Developer**  
**DBA etc.**

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**Question No: 28 ( Marks: 2 )**

**Write names of the DoS attack's phases?**

**ANS:-**

DoS (Denial of service): DoS attach has in total 3 phases and below they are listed:

1. Search
2. Arm
3. Attack

**Question No: 32 ( Marks: 3 )**

**Briefly mention any three problems in old modes of presentation development**

**ANS:-**

Lack of resolution  
Low color configuration  
No graphic animation

**Question No: 34 ( Marks: 5 )**

**Why the quality of image in dithering scheme is not good?**

**ANS:-**

In this scheme, pixels of alternating colors are used to simulate a color that is not present in the palette

For example, red and green pixels can be alternated to give the impression of bright yellow

The quality of the displayed image is poorer

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**Question No: 27 ( Marks: 2 )**

**Define the term 3D Rendering**

**ANS:-**

The process of converting information about 3-D objects into a bit-map that can be displayed on a 2-D computer display.

**Question No: 29 ( Marks: 2 )**

**Define testing with respect to programming..**

**ANS:-**

Testing:- The tasks performed to determine the existence of defects.

Programming:- The process of telling the computer what to do.

**Question No: 30 ( Marks: 2 )**

**What is a compiler? Write its one benefit over interpreter.**

**ANS:-**

Compiler translates the program written in a HLL in one go. The translated code is then used by the uP whenever the program needs to be run. In contrast of interpreter, a compiler translates high-level instructions directly into machine Language. Compiled programs generally run faster than interpreted programs.

**Question No: 31 ( Marks: 3 )**

**Who is a Computing Professional?**

**ANS:-**

Computing technology has changed our way of life like no other technology. We need to study how it has done it to highlight the mistakes and success stories of the past. We need to do it so that we can learn from them and select our future direction Accordingly.

**Question No: 33 ( Marks: 3 )**

**What is ICMP?**

**ANS:-**

ICMP is the "Internet Control Message Protocol". ICMP packets are small packets used in local networks and on the Internet, most typically, for network troubleshooting and problem location.

**Question No: 35 ( Marks: 5 )**

**Write down the advantages of Natural Language Processing.**

**ANS:-**

It is able to read what you write, comparing it to a stored database of texts. It then corrects your errors and suggests alternatives. What advantages can this give you? Here are some:

1. You Don't Have to Worry About Careless Mistakes and Typos
2. Your Grammar and Punctuation Errors are Fixed
3. Allows You To Get More Accomplished
4. Gives You A Better Vocabulary
5. Instantly Upgrades Your Communication Skills

**Question No: 36 ( Marks: 5 )**

**Draw hierarchy of the people in the small project?**

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**Question No: 30 ( Marks: 2 )**

**What was the obstacle to the construction of analytical engine?**

**ANS:-**

Charles Babbage had huge difficulties raising money to fund his research. As a last resort, he designed a clever mathematical scheme along with Ada, the Countess of Lovelace. It was designed to increase their odds while gambling. They bet money on horse races to raise enough money to support their research experiments Guess what happened at the end? The lost every penny that they had.

**Question No: 33 ( Marks: 3 )**

**Give any three applications of computer graphics?**

**Question No: 34 ( Marks: 5 )**

**Mention any five applications of Artificial Intelligent System**

**ANS:-**

1. Games
2. Image recognition
3. Medical diagnosis
4. Robots
5. Business intelligence

**Question No: 36 ( Marks: 5 )**

**Explain function arguments with the help of an example?**

**ANS:-**

A named group of statements that is put together once and then used (by reference) repeatedly on a Web page

Code becomes easier to read, understand and maintain

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**Question No: 31 ( Marks: 1 )**

**What are the elements of website design? Any one**

**ANS:-**

Navigation scheme  
Layout of information  
Overall look and feel

**Question No: 33 ( Marks: 2 )**

**What is meant by universal access of internet services ?**

**ANS:-**

Universal access of internet services means same functionality to every one.

**Question No: 38 ( Marks: 5 )**

**Differentiate between For and While loop by writing the syntax of both loops.**

**ANS:-**

When the exact number of iterations is known, use the 'for' loop

When the number of iterations depend upon a condition being met, use the 'while' loop

'for' loops become especially useful when used in conjunction with arrays

We'll find out about arrays today, and we'll probe their usefulness as part of 'for' loop structures

**Question No: 41 ( Marks: 10 )**

**Is tabular data storage better than flat file data storage? Justify your answer.**

**ANS:-**

1. Similar items of data form a column
2. *Fields* placed in a particular row – same as a flat-file *record* – are strongly interrelated
3. One can sort the table w.r.t. any column
4. That makes searching – e.g., for all the books written by a certain author – straight forward

5. Similarly, searching for the 10 cheapest/most expensive books can be easily accomplished through a sort
6. Effort required for adding a new field to all the records of a flat-file is much greater than adding a new column to the table

**CONCLUSION:** Tabular storage is better than flat-file storage

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**Question No: 31 ( Marks: 1 )**

**In programming, what is a loop?**

**ANS:-**

In computer science a for loop is a programming language statement which allows code to be repeatedly executed. A for loop is classified as an iteration statement.

**Question No: 32 ( Marks: 1 )**

**What are the other names of function? Any one.**

**ANS:-**

Routine , procedure , sub program

**Question No: 33 ( Marks: 2 )**

**How JavaScript Arrays are heterogeneous?**

**ANS:-**

Arrays are heterogeneous in java script because at the same time simultaneously they can hold elements of multiple data types

**Question No: 34 ( Marks: 2 )**

**What is the database?**

**ANS:-**

Data base is a collection of organized data in a proper way that computer can quickly search for any desired data item, its an easy way of allowing of manipulation of data, they are design in such a way that access to any desired data can be identified and reached quickly and easy, they are generally consist of collection of interrelated files.

**Question No: 35 ( Marks: 3 )**

**Differentiate between LAN and WAN with one example of each.**

**ANS:-**

LAN is a local area network where as wan is a wide area network

LAN can be used in a specific areas with limited computers where as wan can be used on computers shared by large distances

For example LAN can be used on pc s or an organization located in one building but wan can be used on large scales like banks all over or in any Large communication systems

**Question No: 36 ( Marks: 3 )**

**What are Trojan Horses?**

**ANS:-**

Trojan horses are a kind of cyber crime, they are v harmful to computer because they are stand alone program and the look like what they are not like any thing amusing or not harmless like games..

**Question No: 38 ( Marks: 5 )**

**What are the important properties, methods and event handlers of image object?**

**ANS:-**

The primary use of the image object is to download an image into the cache before it is needed to display, image object can be used to create different kinds of animations or to display one of several images based on the desired requirement, in java script image object can be used to display the required pre loaded image

**Properties of image object is :-** height, width, hspace, vspace, src, name border etc

**Methods :** none

**Event handlers:** on abort, onload, onerror etc

**Question No: 40 ( Marks: 10 )**

**Write a note on :**

**Coding guidelines**

**Guidelines for developing short programs.**

**ANS:-**

**Coding guidelines**

- Always use semicolons to end statements
- Indent blocks of code (2 to 5 spaces)
- Identifiers
- Use the camel back scheme
- Variables: nouns
- Functions: verbs
- Comment Liberally
- Make them descriptive but concise

**Guidelines for developing short programs.**

- Read and understand the problem
- Do you have all the required data?
- No: Get it
- Else assume it. State it explicitly
- Do the design

**Question No: 41 ( Marks: 10 )**

**write a note on each of the following:**

**a. Vector or Object-Oriented Graphics:**

**b. Bit-Mapped or Raster Graphics:**

**ANS:-**

**Vector or Object-Oriented Graphics:**

In Vector or object oriented graphic everything drawn is treated as object. objects retain their identity after they are drawn. These objects can later be moved, stretched, duplicated, deleted, etc. they are resolution independent and have relatively small file size. the examples are: swf, svg, wmf, ps  
brass\_ibrahim: Vector graphics is the use of geometrical primitives such as points, lines, curves, and shapes or polygon(s), which are all based on mathematical equations, to represent images in computer graphics.

brass\_ibrahim: The term "vector graphics" is mainly used today in the context of two-dimensional computer graphics. Virtually all modern 3D rendering is done using extensions of 2D vector graphics techniques. Virtually all modern 3D rendering is done using extensions of 2D vector graphics

techniques

**Bit-Mapped or Raster Graphics:**

Treats everything that is drawn as a bit-map

If an object is drawn on top of another, it is difficult to move just one of them while leaving the other untouched

Changing the resolution often requires considerable touch-up work

Relatively large file size

Examples: gif, jpg, bmp

masood.tariq: Bit-Mapped or Raster Graphics:

Treats everything that is drawn as a bit-map

If an object is drawn on top of another, it is difficult to move just one of them while leaving the other untouched

Changing the resolution often requires considerable touch-up work

Relatively large file size

Examples: gif, jpg, bmp

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**Question No: 27 (Marks: 1)**

**What BIOS stands for?**

**ANS:-**

Binary Input Output System

**Question No: 28 ( Marks: 1 )**

**List down the Analytical Engine's components name (any two)**

**ANS:-**

Google & Netscape,

**Question No: 29 (Marks: 2)**

**Why uploading a web page is important? Describe in 2 – 3 lines.**

**ANS:-**

By only uploading webpage we could place our information in order the other can reach up to ready what we load, upload means make available our data or information for the world web browsers

**Question No: 30 ( Marks: 3 )**

**What is the difference between microprocessors and microcontrollers? Give one example of both.**

**ANS:-**

The microprocessor is electronic equipment which can perform several function and also processing of data and information present in a computer, while microcontroller can only perform one function for that its design

Example

Microprocessors \_ Pentium 4

Microcontroller \_ can be a switch in side the washing machine

**Question No: 31 ( Marks: 5 )**

**Differentiate uni-Processor OS from Multi-Processor OS.**

**ANS:-**

The Multiprocessors is when more than one processor is under operation it can be several or may

hundreds of the kind to perform one great operation or calculation, while our PC is a kind of uni-processor

**Question No: 32 ( Marks: 5 )**

**Why do we call JavaScript an Object-based Language?**

**ANS:-**

Java Script is a language by which we are writing our web-pages, this language is designed to work for web pages

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**Question No: 31 ( Marks: 1 )**

**What is heuristic?**

**ANS:-**

Common sense Lesson drawn from experience

(Artificial) Intelligent Systems

SW programs or SW/HW systems designed to perform complex tasks employing strategies that mimic some aspect of human thought

or

- a commonsense rule (or set of rules) intended to increase the probability of solving some problem
- of or relating to or using a general formulation that serves to guide investigation

**Question No: 32 ( Marks: 1 )**

**In programming, what is an object?**

**ANS:-**

A named collection of properties (data, state) & methods (instructions, behavior)

**Question No: 33 ( Marks: 2 )**

**What is spreadsheet? List any two jobs that it can do.**

**ANS:-**

A spreadsheet is a grid that organizes data into columns and rows. Spreadsheets make it easy to display information, and people can insert formulas to work with the data.

1. Electronic replacement for ledgers Charts
2. financial-forecasting

**Question No: 35 ( Marks: 3 )**

**Explain how many ways businesses monitor their employees?**

**ANS:-**

- Systems are available that monitor almost every key stroke that an employee makes on a computer
- Systems are available that read and censor all incoming and outgoing eMail

- It is quite straight forward to monitor where you surf, and when

**Question No: 36 ( Marks: 3 )**

**What is difference between Design and System Architecture?**

**ANS:-**

Only the higher level designs are called System Architecture and lower level designs can not be called system Architecture, and we can also say the every Architecture can be called design but every design can not be called Architecture. (For Reference Listen Lecture No.24)

**Question No: 38 ( Marks: 5 )**

**How many ways are there to call a function in a program? Explain with example**

**ANS:-**

Functions do not run automatically. When the page loads, each function waits quietly until it is told to run

**Calling a Function From an Event Handler**

An event handler is a command which calls a function when an event happens, such as the user clicking a button.

The command is written in the format **onEvent**, where **Event** is the name for a specific action. Here are some common examples:

**Calling a Function From Another Function**

```
function doSomething() {  
  doSomethingElse(); // This line calls the next function  
}
```

**Question No: 39 ( Marks: 5 )**

Elaborate the '+' operator and its constraints with the help of examples

The "+" String Operator

The "+" operator can be used to concatenate two strings

title = "bhola" + "continental"

The value of the variable title becomes "bholacontinental"

**Question No: 40 ( Marks: 10 )**

**Write a JavaScript program having two functions sum and mean.**

**ANS:-**

The web page will ask the user to enter five values to be added.

After taking input it will calculate the sum and mean of those values by calling sum and mean functions.

**Question No: 41 ( Marks: 10 )**

**Define the following terms.**

**ANS:-**

**Object**

A named collection of properties(data, state) & methods (instructions, behavior)

**Event Handler**

An event handler is a command which calls a function when an event happens, such as the user clicking a button

**Local Variable**

Declaring variables (using the var keyword) within a function, makes them local. They are available only within the function and hold no meaning outside of it

**Scope of Variable**

Defining the space in which a variable is effective is known as

Defining the scope of a variable. A variable can be either local or global in scope

**Array**

An indexed list of elements

**FINAL TERM EXAMINATION  
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**Question No: 32 ( Marks: 1 )**

**What does TCP/IP stand for?**

**ANS:-**

TCP stand for Transmission Control Protocol

IP stands for Internet Protocol

**Question No: 34 ( Marks: 2 )**

**What is the use of *Default* keyword in switch structure?**

**Question No: 36 ( Marks: 3 )**

**Where "While" loop is more preferable than "For" loop and vice versa? , explain with the help of example.**

**Question No: 37 ( Marks: 3 )**

**What do you mean by FTP or File Transfer Protocol?**

**ANS:-**

This protocol is used to upload and download the files on remote computers.

**Question No: 41 ( Marks: 10 )**

**Develop a web page that displays six thumbnail images. A main image should change to a larger version of the thumbnail as soon as the mouse moves over a thumbnail image. Write**

complete HTML and JavaScript code.

**FINALTERM EXAMINATION  
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**Question No: 32 ( Marks: 1 )**

**Name any software which can be used to make a presentation.**

**Question No: 38 ( Marks: 5 )**

**In which situation, we use**

**i- switch construct**

**ii- multiple If-else construct**

**Question No: 39 ( Marks: 5 )**

**What are the responsibilities and profile of a Team Lead?**

**ANS:-**

**Team Lead**

**• Responsibilities:**

- Planning and tracking of the project
- Detailed design
- Professional development of team members
- In case of small teams, development activities

**• Profile:**

- 5+ years of development experience
- Excellent interpersonal skills
- Good planning skills
- Good design skills

**Question No: 40 ( Marks: 10 )**

**Give any five well-known design heuristics for architectural design.**

**ANS:-**

Given many parts of a system to be designed/built, do the hard part 1<sup>st</sup>.

All the serious mistakes are made on the very first day.

Simplify, simplify, simplify! Probably the most useful heuristics for increasing reliability while decreasing cost & time-to-build.

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**Question No: 31 ( Marks: 1 )**

**What does NIC stand for?**

**ANS:-**

Network Interface Cards.

**Question No: 32 ( Marks: 1 )**

**Why there is a need to use primary key in database ?**

**ANS:-**

Primary Key is a field that uniquely identifies each record stored in a table.

**Question No: 37 ( Marks: 3 )**

**Write JavaScript code to convert the number 236.2363611111556 into currency format and JavaScript statement to show output.**

**Question No: 39 ( Marks: 5 )**

**Write a short note on:**

- a. Good programming methodology?**
- b. Correct program**

**ANS:-**

**Good programming methodology**

A methodology that enables the lowest-cost and on-schedule development of programs that are correct, easy to maintain & enhance.

**Correct program**

A program with correct syntax & semantics.

**FINALTERM EXAMINATION  
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**Question No: 32 ( Marks: 1 )**

**What kind of information can be stored in a database?**

**ANS:-**

It can store numbers, Booleans, sound, video, images etc.

**Question No: 33 ( Marks: 2 )**

**Define the key weakness of the web?**

**ANS:-**

Initially web was designed only for humans to read not for computers to understand it.

**Question No: 34 ( Marks: 2 )**

**How many iterations would this 'for' loop run for?**

```
for ( x = 50 ; x < 0 ; x = x - 1 ) {  
document.write ( x ) ;  
}
```

**Answer:**

50 iterations

**Question No: 35 ( Marks: 3 )**

**How can we define a Pixel?**

**ANS:-**

It is the smallest element of image which is spread with regular array on display and each element consist of particular color.

**Question No: 36 ( Marks: 3 )**

**Write JavaScript code to convert the number 236.2363611111556 into currency format and JavaScript statement to show output.**

**Question No: 37 ( Marks: 3 )**

**Write code in JavaScript to display the odd numbers between 20 to 100 using FOR statement.**

**Note:** No need to write whole HTML program. Just JavaScript code of require part is require.

**Question No: 38 ( Marks: 5 )**

**How marketing strategies are changed with the progress in computing? How new marketing strategies are implemented?**

**ANS:-**

Marketing Strategy Changes with the new requirements of the modern era and the applications of the business. The web has changed marketing strategy from a mass focus to single person focus. We collected data and analyze accordingly to find out the behavior of the market and end users. In new marketing more advertising is being done through email and web and get feedback.

**Question No: 39 ( Marks: 5 )**

```
<script>
```

```
Number = new Array(5);
```

```
var abc=4;
```

```
for(var i=1; i<=5 ; i=i+1)
```

```
{  
Number[j]= abc*i;
```

```
Number.reverse();
```

```
for(j=0;j<5;j=j+1)
```

```
{  
document.write(" "+Number[jj]+"<BR>");
```

```
}  
</script>
```

**A) What should be output of above code?**

**B) Explain the highlighted lines of code?**

**Question No: 40 ( Marks: 10 )**

**Write a brief note on each of the following.**

- ❖ **FTP**
- ❖ **Telnet**
- ❖ **Instant messaging**
- ❖ **VoIP**

**ANS:-**

**FTP: File Transfer Protocol:** This protocol is used to upload and download the files on remote computers.

**Telnet:** FTP allows file operations only while Telnet can log on to a computer of other users through TCP/IP network and use like a local user, it help in testing of remote web server.

**Instant Messaging:** This is the service of messaging provided on the internet like MSN messenger, Yahoo messenger, through which we interact people randomly whenever required.

**VoIP:** Voice over IP, It is used to transmit the voice from one IP to another IP, In which voice is first broken down and then transmitted over a network.

**Question No: 41 ( Marks: 10 )**

**What are Commonsense Guidelines to avoid viruses? Discuss about Antivirus as well.**

**ANS:-**

Commonsense Guidelines to avoid viruses are as follows:

1. Do not open attachment of unwanted emails.
2. Don't used copied/pirated Softwares
3. Regularly place data somewhere as backup
4. Use Registered and Trusted Softwares only.
5. Install Antivirous in the system
6. Update your Windows and softwares with the passage of time.
7. Scan before using any external device with your system as USB Device.

**Antivirus:**

This is the software design for preventing your system from harmful effects and maintain the speed of computer. These softwares are available on the CD's and DVD's. These softwares continuously monitor the systems and aware when any harmful virus is detected and asked for the further operations. Some automatically remove the viruses from the system.

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**Question No: 32 (Marks: 1)**

**What are Local or Function-level Variables?**

**ANS:-**

Declaring variables (using the var keyword) within a function, makes them *local*. They are available only within the function and hold no meaning outside of it.

**Question No: 34 (Marks: 2)**

**What is the Data Normalization? Also define its goal.**

**ANS:-**

Data normalization is to sort out complex data into simple form. It uses to simplify the complex information to make it more user-friendly.

**Question No: 36 (Marks: 3)**

**Differentiate Local and Global Variables.**

**ANS:-**

Local variables are the variables have limited scope while global have bigger scope  
Local variables are not accessed by others while global is accessible to every one  
Local variable used by single user while global variable can be used by different users at time from all around.

**Question No: 38 (Marks: 5)**

**How DoS attack is a cyber crime? For what cyber crime can be used?**

**ANS:-**

DoS stands for Decline of Service and it is a cyber crime as it jams and in some cases shut down the targeted computer by sending too much unnecessary data packets to it which ultimately exceeds the normal processing eventually results the computer or server to stuck and unable to provide services to others. It can be used to destroy the fame and diminishing of no of users requesting information and services from that particular server or computer.

**FINAL TERM EXAMINATION  
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**Question No: 31 ( Marks: 1 )**

**SMTP stands for what?**

**ANS:-**

Simple Mail Transfer Protocol

**Question No: 33 ( Marks: 2 )**

**In which situation we should use Inline Event Handling?**

**ANS:-**

Event handler are placed in the BODY portion of a web page as attributes of HTML tags

The event handler attributes consist of 3 parts

- The equal sign
- The identifier of event handler
- A string consisting of java script statements enclosed in double or single string  
Multiple JavaScript statements can be placed in that string, but all have to fit in a single line.  
No new line characters with in line event handling

Inline event handler can be used normally in a condition when we want to execute the eventd directly

and quickly in the same line of code.

**Question No: 39 ( Marks: 5 )**

**What is animated gif? How can we use it? If we animate images in JavaScript then is it better?**

**ANS:-**

It is bit map image format introduced in 1987 by compuserve. It supports up to 8 bits per pixel. It also supports animation and allows a separate palette of 256 colors for each frame.

**Uses:** We can use it in web sites they are suitable for sharp edged line art with limited number of colors. They are good for small animation and low resolution clips.

The size is small and on web sites they can be uploaded and downloaded easily.

**Question No: 40 ( Marks: 10 )**

**What is the problem with Relational Database and what solution you can suggest for it?**

**ANS:-**

When we use to store object oriented data into a Relational database it needs to be translated into a form which is suitable for the relational database.

Again when we need to read RDBMs the data needs again to be translated into object oriented form to read.

These two processes delay associated processing and time spent in writing and maintaining the translation codes are the key disadvantages with Relational Database.

**Solution:**

Object oriented database

Object Relational database

The data should be divided and saved in multiple tables and tabular form, so that opening, searching, sorting, editing and saving of data can be performed quickly.

With tabular form one can sort w.r

**Question No: 41 ( Marks: 10 )**

**How can we neutralize DoS attack? Can we track the attacker?**

**ANS:-**

Denial of service attempts to make a computer resource unavailable to its intended user. The easiest way to survive an attack is to have planned for the attack.

Good contact with ISP and some security providers and CERT are essential. Also having a separate emergency block of IP address for critical servers with a separate route can be effective.

We should use a genuine operating system which can also be helpful.

By using an extremely stateful packet filter that will inexpensively drop any unwanted packets serving a DoS attack becomes much easier.

We can also use firewalls.

Using antivirus software

Using private network

Using encryption

Network sniffer

Intrusion detector By using all these techniques we can neutralize DoS attack

Investigative process should begin immediately after the DoS Attack begins. By using IP address we can Track Attacker.

**FINAL TERM EXAMINATION  
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**Question No: 31 ( Marks: 1 )**

**What is bandwidth?**

**ANS:-**

Bandwidth is a capacity of communication channel of carrying data.

**Question No: 32 ( Marks: 1 )**

**What is "My Personal Agent"?**

**ANS:-**

A computer program that works automatically and has a voice interface.

**Question No: 33 ( Marks: 2 )**

**For what purposes FTP is used in networks ?**

**ANS:-**

To download or upload files / data to a remote computer.

**Question No: 34 ( Marks: 2 )**

**How can you define a readable program?**

**ANS:-**

A program that is easy to read & understand also easy to maintain and enhance.

**Question No: 36 ( Marks: 3 )**

**How can you define a consistent web design? Why is it needed?**

**ANS:-**

A consistent web design is easy to understand, not with heavy graphics, easy navigation. It is needed because most of the website visitors leave the site because of poor navigation and not easy to understand, text and design is not clear etc.

**Question No: 38 ( Marks: 5 )**

**What are the advantages of multimedia presentations? Write any five.**

**ANS:-**

Multimedia presentation is a great tool for effective communication:

**Advantages:**

1. Easy to make last minute change
2. More attractive
3. Can include animation, videos etc.
4. Better presentation easy to understand for participants comparing to manual presentation.
5. Undo feature

**Question No: 39 ( Marks: 5 )**

**Can a human doctor be replaced by an Expert System? Give reasons to support your answer.**

**ANS:-**

Expert System is a computer system which simulates the knowledge and expertise of a human expert. Yes, a human doctor can be replaced by an Expert System. Following are the reasons to support my

1. A large database of knowledge can be added to and kept up to date, it can store more knowledge than a person.
2. The Expert System cannot FORGET or get facts wrong.
3. It survives forever. There is no loss of knowledge as there is when a doctor retires.
4. The Expert System can access specialist knowledge that a doctor may not have.

**Question No: 40 ( Marks: 10 )**

**Explain the following issues of Data Management? (3+4+3)**

1. **Data entry**
2. **Data updates**
3. **Data security**

**ANS:-**

**DATA ENTRY:**

There is new data entered every day.

New customers are added every day.

Some of the data entry requires the manual entry into computer system

New data entry needs to be entered correctly

**DATA UPDATES:**

Old titles must be removed regularly

Data changes every time

Prices change

Transportation / shipping cost changes

Customer personal data changes

Schemes changing, new offers

Every new entry needs to be entered correctly

**DATA SECURITY:**

All data in the system is very critical to its operation, the security of the customer's personal data is most important. Most of the hackers are always trying for that type of information specially Credit Card Numbers.

This problem can be managed by using proper security arrangements and mechanisms that provides access to only authorized entities. System Security can be improved through, encryption, firewalls and updated Antivirus Softwares

**Question No: 41 ( Marks: 10 )**

**Write a note on the followings**

- a. **Image Preloading process**
- b. **Animated Gifs**

### IMAGE PRELOADING PROCESS:

The primary use of image preloading process is to download the image into the cache before it is actually needed to display.

### PROCESS:

1. An example of the image object is shaped using the NEW keyword
2. The src property of this instance is set equal to the filename of the image to be pre-loaded
3. This step starts the down-loading of the image into the cache without actually displaying
4. When a pre-loaded image is required to be displayed, the src property of the displayed image is set to the src property of pre fetched image

### ANIMATE GIFS:

We can save 16 gif images of the previous example in a single file in the form of an animated gif, and then used it in a regular <IMG> tag to display a moving image. However, JavaScript provide better control over the sequencing and the gap between the individual images.

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**Question No: 31 ( Marks: 1 )**

**What is the out put of the following JavaScript code ?**

```
name="Ali Akbar";  
document.write(name.charAt(4)) ;
```

**ANS:- A**

**Question No: 32 ( Marks: 1 )**

**What does WAN stand for?**

**ANS:-**

Wide Area Network – A network in which computers are separated by great distances typically across cities or even continents.

**Question No: 33 ( Marks: 2 )**

**Why hub is used in networks?**

**ANS:-**

The network traffic controller – components of conventional computer networks. Hub is used to connect the different computers in the network i.e. to the server.

**Question No: 34 ( Marks: 2 )**

**What is output of the following JavaScript code ?**

```
Str="Virtual University of Pakistan";
```

```
document.write(str.substring(5,str.length)) ;
```

**Question No: 37 ( Marks: 3 )**

**Elaborate Vector or Object oriented graphics with atleast one example.**

**ANS:-**

Treats everything that is drawn an object. Objects retain their identity after their drawn. These objects can later be easily moved stretched duplicated deleted etc are resolution independent relatively small size. e. g. swf, wmf,

**Question No: 39 ( Marks: 5 )**

**Why should we, as computing professionals, be interested in studying the social implications of our creations?**

**ANS:-**

This is imp. Because of keeping the track of money wise while implementation actually and see the results. This fits with the organization or no. to check there is any side effects morally or no. we have to be very careful while creation of any system., error free, data loose recovery. Etc.

**Question No: 40 ( Marks: 10 )**

**Write responsibilities of the followings**

**Developer**

**Executive Team**

**Support Team**

**ANS:-**

**1. Developer**

- a) Module level design.
- b) Coding
- c) Unit testing

**2. Executive Team**

- a) Responsible for the day to day operations.
- b) All the decision related issues.
- c) Policy making and changing etc.

e.g. In this usually CEO and CISO involves

- 1. He is responsible for the day to day operation and great organizational skills.

**3. Support Team**

The support team is responsible for the complete operations such as arrangement for performing any kind of task from the starts to the end. Fully project handling and performing etc. In case of any maintenance they are the responsible for commencing the job and making sure to complete.

**Question No: 41 ( Marks: 10 )**

**Write HTML and JavaScript code for the requirements shown in the diagram below. When ConvertToUpperCase button is pressed, the entered text is converted to upper case and result is displayed in the result text box. Similarly, when ConvertToLowerCase button is pressed, the entered text is converted to lower case and result is displayed in the result text box.**

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**Question No: 32 ( Marks: 1 )**

**What are the types of computer network according to the distance between nodes?**

**ANS:-**

The types of computer network according to the distance between nodes are:

1. LAN
2. WAN

**Question No: 35 ( Marks: 3 )**

**What is the difference between Internet and Intranet?**

**ANS:-**

The Internet is an open, public space, while an intranet is designed to be a private space. An intranet may be accessible from the Internet, but as a rule it's protected by a password and accessible only to employees or other authorized users

**Question No: 36 ( Marks: 3 )**

**Write down three advantages of using Functions in a program.**

**ANS:-**

- \* Debugging is easier
- \* It is easier to understand the logic involved in the program
- \* Testing is easier
- \* Recursive call is possible
- \* Irrelevant details in the user point of view are hidden in functions
- \* Functions are helpful in generalizing the program

**Question No: 39 ( Marks: 5 )**

**List any five issues of Data Management.**

**ANS:-**

Data entry  
Data updates  
Data integrity  
Data security  
Data accessibility

**Question No: 40 ( Marks: 10 )**

**How can you make your website's structure more navigable?**

**ANS:-**

A properly planned website project makes the organization, development and the design of the website easier for the designer. Effective planning allows a website designer to produce a website more navigable and usable for the site's readers, allowing them to find the desired information. You can accomplish this by establishing and maintaining a creative focus throughout the design process and throughout the implementation.

**Four steps for planning your website structure**

1. Discover the correct niche for your website
2. Find correct keywords and choose the most profitable website concept for you.
3. Make your final website concept ever more profitable by analyzing and using the competition.
4. Build the optimal structure of your website that corresponds with your table of highly profitable keywords.

**The correct structure will make your site easy and navigable for both your visitors and your search engine spider**

**Question No: 41 ( Marks: 10 )**

**Define network organization? What are important features of network organization? (4+6)**

**ANS:-**

**Network Organization :**

Network organization is an interfirm organization that is characterized by organic or informal social systems. A company or group of companies that has a minimum of formal structures and relies instead on the formation and dissolution of teams to meet specific objectives..

**Features of Network Organization:**

1. The organizations are learning that business can be done in a more effective manner if emphasis is placed upon cooperation, shared responsibility and networking:
  - Within the organization
  - And also with their customers and suppliers
2. Changes according to the demand of the times
3. Works effectively to meet the business goals of the organization
4. Everyone has a feeling that he/she is playing a major role in the organization which eventually gives a feel of ownership and because of that employee can put his best effort to accomplish a task.

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**Question No: 32 ( Marks: 1 )**

**What is an IP address ?**

**ANS:-**

Every device connected to the public Internet is assigned a unique number known as an Internet Protocol (IP) address.

**Question No: 34 ( Marks: 2 )**

**Define semantic web with respect to the present web?**

**ANS:-**

The Semantic Web is an idea of World Wide Web inventor Tim Berners-Lee that the Web as a whole can be made more intelligent and perhaps even intuitive about how to serve a user's needs.

**Question No: 38 ( Marks: 5 )**

**What is the role of usability in the design of a website?**

**ANS:-**

On the Web, usability is a necessary condition for survival. If a website is difficult to use, people **leave**. If the homepage fails to clearly state what a company offers and what users can do on the site, people **leave**. If users get lost on a website, they **leave**. If a website's information is hard to read or doesn't answer users' key questions, they **leave**.

**Question No: 41 ( Marks: 10 )**

**Write down HTML and JavaScript code for the following requirements:**

**Declare an Array with the identifier SUBJECT having length 5. Assign following values to the**

array elements:  
MIS, Java, Algorithms, Databases, C++

Show all values in reverse order.

**FINALTERM EXAMINATION**  
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**Question No: 31 ( Marks: 1 )**

**What is an Array?**

**ANS:-**

An indexed list of elements.

**Question No: 34 ( Marks: 2 )**

**Which benefits a developer can achieve by following the heuristics for system architecting?**

**ANS:-**

**Question No: 36 ( Marks: 3 )**

**Define Primary key and Queries**

**ANS:-**

**Primary Key**

Primary key is a field that uniquely identifies each record stored in a table.

**Queries**

Queries are used to view, change, and analyze data. They can be used to combine data from different table and extract the exact data that is desired.

**Question No: 37 ( Marks: 3 )**

**Briefly describe Holographic Storage.**

**ANS:-**

**Holographic Storage**

- Digital data stored in and read from a 3-D optical material with the help of lasers
- Depending upon the material, they could be read-only or R/W
- The data density (quantity of data stored per unit volume) will be millions of times more than anything available today
- The concept has been validated but commercial applications are at least 10 years away

**Question No: 39 ( Marks: 5 )**

**What is Robotics? How Robots making our daily and industrial life easy?**

**ANS:-**

Robotics

These are the machines which are computer programmed and perform work which was previously done by humans. They can be found in the manufacturing industry, the military, space exploration and medical applications.

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**Question No: 31 ( Marks: 1 )**  
**When does recursion occur?**

**ANS:-**

The power of recursion evidently lies in the possibility of defining an infinite set of objects by a finite statement.

**Question No: 34 ( Marks: 2 )**

**List down the names of two array methods available in JavaScript.**

**ANS:-**

1. sort() [sorts elements in alphabetical order]
2. reverse() [Reverses the order of elements]

**Question No: 36 ( Marks: 3 )**

**How can we include images in a web page using HTML and Java script?**

**ANS:-**

Image in HTML

```
<IMG src=URL, alt=text height=pixels width=pixels align="bottom|middle|top">
```

Image in Javascript

Images in JavaScript can be manipulated in many ways using the built-in object Image.

Additional properties to HTML are hspace, vspace & lowsrc.

Example: It can be used by many handlers like, onAbort, onLoad & onError

**Question No: 37 ( Marks: 3 )**

**The event handler attribute consists of three parts. Write about each of them.**

**ANS:-**

The identifier of the event handler

The equal sign

A string statement enclosed in double or single quotes.

**Question No: 38 ( Marks: 5 )**

**What is a packet in the network environment? What kind of information does it contain?**

**ANS:-**

- Packet is data chopped up into pieces in a network environment.
- These packets contain information about which computer sent the data and where the data is going.
- If a packet runs into a problem during its trip, it can attempt to find another route. When all the packets get where they are going, the recipient computer puts them together again.

**Question No: 39 ( Marks: 5 )**

**Suppose we have a big project. Draw hierarchy of the people involved in the project?**

**ANS:-**

Please ignore small lines relating Sub Teams to subordinates due to shortage of time. ABCD etc are connected directly to Team Lead 1,2 & 3 accordingly.

**Question No: 41 ( Marks: 10 )**

**How instant messaging works? Write the steps involved in this process.**

**ANS:-**

The Instant Messaging services available allow us to maintain a list of people (contacts) that we interact with regularly. We can send instant messages to any of the contacts in our list as long as that contact is online.

Following steps are involved in IM working.

1. User commences the IM client.
2. IM client finds the IM server & logs in.
3. It launches communication info (IP address, etc) to the IM server.
4. IM server finds user's contacts & sends him/her the communication info.
5. IM server also notifies the contacts that the user is online; sends his/her communication info to them.
6. The user's & the contact's IM clients are ready to communicate directly (P2P).
7. As new contact has come online, IM server informs them about the user being online & vice versa.
8. Multiple, real-time chat are possible.
9. When the user logs-off, his/her IM client informs the IM server.
10. IM server wipes away the temporary file and informs the user's contact's about his/her 'offline' status.

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