(Part-I)

2. Write short answers to any FOUR (4) questions: (8)

(i) Which five questions are necessary to understand a problem?

Ans We can analyse the problem by identifying 5Ws in the problem statement as given below:

1. What
2. Who
3. Why
4. When
5. Where

(ii) What is prototype?

Ans This technique draws a pictorial representation of the solution. It is not the final solution. However, it may help a designer to understand the important components of the solution.

(iii) What is meant by candid solution?

Ans The word candid means something unplanned. The candid solution is typically found using guess without detailed planning. It saves a lot of time but may not be the actual solution of the problem.

(iv) What is the purpose of using the terminal symbol in flowchart?

Ans It indicates start and end of a flowchart.

(v) What is meant by mark-up language?

Ans A webpage consists of a series of elements which are represented by tags. For example, if you need a paragraph of text on your webpage. You use it as:

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<p> I am a student <\p>
<p> I am in class 9 <\p>
<p> I have a computer <\p>
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Here <p> shows marking of paragraph opening tag and <\p> means marking of paragraph closing tag.

(vi) Write down the name of tags types that are used in HTML document.

Ans An HTML document primarily consists of two sections:
1. Head Section
2. Body Section

3. Write short answers to any FOUR (4) questions: (8)

(i) How to convert binary number to a decimal number? Explain with an example.

Ans The conversion of a number from binary number system to decimal number system is explained below:

Example:

Convert $(1000001)_2$ to decimal
$$= 1 \times 2^6 + 0 \times 2^5 + 0 \times 2^4 + 0 \times 2^3 + 0 \times 2^2 + 0 \times 2^1 + 1 \times 2^0$$
$$= 64 + 0 + 0 + 0 + 0 + 0 + 1$$
$$= (65)_{10}$$

The above conversion is done by the following steps:

1. Write down the binary number which is $(1000001)_2$ in this example.
2. List the powers of two from right to left starting with 0. In this example, the power of 2 starts from 0 and ends at 6.
3. Multiply 2's corresponding powers to each binary value. In the above example, there are 7 binary values.
4. Compute each value.
5. Add all the values.
6. Write the answer along with its base subscript.

(ii) Define memory and write the name of its types.

Ans Computer memory is any physical device capable of storing data. Primarily, there are following two types of memory:

1. Volatile Memory 2. Non-Volatile Memory

(iii) What is proposition? Explain with example.

Ans A proposition is a sentence that can either be true or false. For example, the following sentences are propositions:

1. "Someone from our school can join Pakistani Cricket Team."
2. "I will get A+ grade in board exam."

(iv) What is meant by decimal number system?

Ans The decimal number system has base 10 as it uses ten digits [0-9]. Each position represents a specific power of base 10.

(v) What is counterfeiting?

Ans Duplicating and selling software having copyright is called counterfeiting.

(vi) What is meant by hard disk loading?

Ans Installing and selling unauthorized copies of software on refurbished or new computer is called hard disk loading.

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4. Write short answers to any FOUR (4) questions: (8)

(i) What is network of networks? Give one example.

Ans Networks are connected together to make a larger network which is called network of networks. The Internet is considered as the most well-known example of network of networks.

(iii) What is meant by message is data communication?

Ans Message is the data or information to be communicated. It may consist of text, numbers, pictures, sound, video or any combination of these.

(iii) Write a note on file transfer protocol (FTP).

Ans File Transfer Protocol is the standard TCP/IP protocol, which is used for the purpose of transferring files from one computer to another.

(iv) What is protocol?

Ans A network protocol is a formal arrangement between two computers to send and receive information. Very specifically, a network protocol defines a set of rules and procedures for communication between a sender and a receiver.

(v) What is hyperlink?

Ans Hyperlink is such an icon, graphic, or text in a webpage, that when clicked, takes you to some other webpage.

(vi) What is meant by head section?

Ans Head section typically defines the document title, styles and other information about the whole document. Head section starts with <head> tag and ends with </head>. To specify title of the webpage, you use <title> tag inside <head> </head> tags.

(Part-II)

NOTE: Attempt any TWO (2) questions.

Q.5. How do you determine the requirements for a flowchart? Write in detail. (8)

Ans For Answer see Model Paper 1, Q.5.

Q.6. Define computer network model. Explain its any three layers. (8)

Ans For Answer see Model Paper 5, Q.6.

Q.7. What is cybercrime? Explain its types. (8)

Ans Cyber crime:

The internet is an amazing tool for communication, allowing users to connect instantly over great distances. Unfortunately, the same communication is also a great tool for criminals. A crime in which computer network or devices are used is called a cyber crime. For example:

(i) Identity Theft:

One common form of cyber crime is identity theft. Hackers may use fake emails to trap someone to give passwords and account information.

(ii) Transaction Fraud:

Simple financial fraud is another common crime in the online arena. A scammer may offer an item for sale through an auction site with no intention of delivering once he/she receives payment. Alternatively, a criminal might purchase an item for sale using a stolen credit card. It is also possible to buy something from own credit card but then reporting the card stolen. This is a transactional fraud if the cardholder claims chargeback.

(iii) Advance Fee Fraud:

Sometimes, the hackers congratulate you upon winning a big prize and ask you pay a small amount in advance, so that the prize can be dispatched. This is a common type of cyber crime. The lure of easy wealth has found many victims of these frauds.

(iv) Hacking:

Another cyber crime is the practice of hacking, illegally accessing someone else's computer. This happens mostly when you download some file from internet and execute it without knowing details. A software installed in your computer connects someone else to your computer without your permission. The aim is to gather information about a person or organization sometimes without their knowledge. This type of software is called spyware.

(v) Piracy:

Piracy means making illegal copies. It can be a book, software, movie, poetry, painting, house architecture or any other work protected by copyright law. So, piracy is also a type of a cyber crime.