

INTRODUCTION TO IT SYSTEMS

Time Allowed: 2.5 Hours

Full Marks: 60

Answer questions from Group-A, B & C as directed.

GROUP-A1. Choose the correct answer from the given alternatives (Any Ten):

1 X 10 = 10

~~(i)~~ A web browser is an application that is used to

- (a) find and retrieve webpage. (b) send e-Mail (c) prepare a document (d) none of these.

~~(ii)~~ In any search engine user can

- (a) use of two or more keywords (b) use of + (c) use of And (d) All of these.

~~(iii)~~ A small program that gets loaded in the computer without the user knowledge and replicate itself repeatedly called:

- (a) Worms (b) Virus (c) Browser (d) None of these.

~~(iv)~~ What is the term for unsolicited email?

- (a) Spam (b) Worm (c) Browser (d) News Group.

~~(v)~~ Rules to exchange data between computers are called

- (a) Procedure (b) protocols (c) hyperlink (d) program

~~(vi)~~ CPU scheduling is the basis of

- (a) Large memory size system (b) Multiprogramming system
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- (c) Multiprocessing system (d) none of the above.

~~(vii)~~ Which of the following errors will be handled by the operating system?

- (a) Lack of paper in printer (b) Connection failure in the network
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- (c) Power failure (d) All of the mentioned above.

~~(viii)~~ Decimal equivalent of 16 in hexadecimal

- (a)
- 22_{10}
- (b)
- 16_{10}
- ~~(c) 10_{10}~~
- (d)
- 20_{10}

~~(ix)~~ The number of bits used to store a BCD digit is

- (a) 2 (b) 1 (c) 4 (d) 8

~~(x)~~ What is the resultant binary equivalent of the decimal problem $49 + 1 =$

- (a) 00110010 (b) 01010101 (c) 00110001 (d) 00110101

(xi) Flowcharts and Algorithms are used for

- (a) better programming (b) easy testing and debugging
(c) efficient coding (d) all of these.

(xii) Which of the following HTML tag is used for inserting the largest heading in HTML?

- (a) <h1> (b) <h3> (c) <h5> (d) <h6 >

(xiii) In how many way can CSS be written in?

- (a) 1 (b) 2 (c) 3 (d) 4

(xiv) When a user views a page containing a JavaScript program, which machine actually executes the scripts?

- (a) The user machine running a web browser (b) The web server
(c) A central machine deep within Netscape office (d) none of the above

(xv) Which of the following is not a cybercrime?

- (a) Denial of Service (b) Man in the middle (c) Malware (d) AES.

2. Fill in the Blanks (Any Ten):

1 X 10 = 10

- i. _____ is a type of software that is embedded in hardware.
- ii. Universal gates are those gates that can be used for implementing any _____ function without any other types of gates. <https://www.wbscteonline.com>
- iii. $A + 0 = A$ is an example of _____ Law.
- iv. The Operating System _____ is responsible for interacting with hardware.
- v. In _____ scheduling, each process is given a small amount of time to execute.
- vi. _____ attack is an attempt to make a computer resource unavailable to its intended.
- vii. _____ is a batch file stored in the root directory of the hard-disk.
- viii. A group of four bits is called a _____.
- ix. The advantage of DRAM over SRAM is that it is _____, can hold more data per chip and generate less heat.
- x. _____ software is machine independent.
- xi. _____ is a service that automatically converts domain names into IP addresses.
- xii. Gray code equivalent of 1001 in Binary code is _____.
- xiii. A _____ language is computer language that uses tags to define elements within a document.
- xiv. When designing a flowchart, each step in the process is depicted by a _____ and is associated with a short description.
- xv. Number of types of errors in JavaScript's is _____.

$$1 \times 10 = 10$$

3. Answer the following questions (Any Ten):

- ~~i.~~ What is the maximum number of outputs a logic gate can have?
- ~~ii.~~ Write De Morgan's first Law.
- ~~iii.~~ Identify the device which receives analog data and creates its digital equivalent.
- iv. Define Booting.
- ~~v.~~ What is the first page of a website called?
- ~~vi.~~ Write the full form of HTTP.
- ~~vii.~~ Is it possible to run a computer without operating system? Write your opinion.
- ~~viii.~~ Write the full form of SSD.
- ix. Differentiate between Data and Information.
- ~~x.~~ What is BIOS?
- xi. Write the utility of Cache Memory.
- ~~xii.~~ Define Truth Table.
- xiii. Write the utility of Command Line Interpreter.
- ~~xiv.~~ Write the full form of URL.
- ~~xv.~~ What is Malware?

GROUP-B

4. Answer the questions (Any Six):

$$2 \times 6 = 12$$

- i. Write the differences between SRAM and DRAM.
- ~~ii.~~ Why should we use more than one search engine simultaneously?
- iii. How is 8-4-2-1 code different from 4-2-2-1 code?
- iv. "Two's complement is the most popular technique to represent signed number". Justify the statement.
- v. Is there any difference between compiler and an interpreter?
- ~~vi.~~ With the help of an example, explain the use of flow chart.
- ~~vii.~~ Does all HTML tags have an end tag?
- ~~viii.~~ Write the utility of a scripting language.
- ~~ix.~~ How does a virus get installed in a computer?
- x. Define source code and Executable code.

GROUP-C

5. Answer the questions (Any One):

$$6 \times 1 = 6$$

- (a) ~~(i)~~ How can two numbers be subtracted only through addition?
- ~~(ii)~~ What do you mean by Universal Logic Gates?
Why Universal Logic Gates are called Universal?
- ~~(iii)~~ Why SSD is faster than Hard Disk?

$$2 + (1+2) + 1 = 6$$

- (b) (i) Write the utility of Excess-3 code.
- ~~(ii)~~ Convert the number $(5674)_8$ into the hexadecimal system.
- ~~(iii)~~ Write the advantages of multiprocessing operating system.

$$1 + 3 + 2 = 6$$

- (c) (i) What are the basic function of an Operating System ? 2 + 2 + 2 = 6
 (ii) Write the differences between Primary Memory and Secondary Memory.
 (iii) What are the difference between multiprogramming and time sharing System?

6. Answer the questions (Any One):

6 X 1 = 6

- (a) (i) Why algorithm is used before any programming ? 2 + 4 = 6
 (ii) Draw a flow chart to find out highest number among the three different numbers.

- (b) (i) Write the advantages of the flowcharts.
 (ii) Describe the use of different symbols used in any flow chart with suitable example. 1 + 3 + 2 = 6
 (iii) How an image can be inserted using suitable tags of HTML in any web page?

- (c) (i) What are Style Sheets ?
 (ii) Define cascading.
 (iii) Write proper syntax to introduce Style Sheet in HTML.
 (iv) Why do we use JavaScript? 1 + 1 + 2 + 2 = 6

7. Answer the questions (Any One):

6 X 1 = 6

- (a) (i) Write the differences between internet browser and search engine.
 (ii) Is worm a computer virus? Write your opinion.
 (iii) How does a computer worm work? 2 + 2 + 2 = 6

- (b) (i) What do you mean by the term 'Ethical Hacking' ?
 (ii) Write the advantages of Ethical Hacking.
 (iii) Write a short note on Denial of Service (DoS) attack. 2 + 2 + 2 = 6

- (c) (i) Write the differences between Phishing and Spamming.
 (ii) Why Firewalls have become so important today?
 (iii) How does a virus get installed in a computer? 2 + 2 + 2 = 6
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