



# UNIVERSITY OF THE PUNJAB

First Semester – 2019

Examination: B.S. 4 Years Program

Roll No. in Fig. ....

Roll No. in Words. ....

**PAPER: Introduction to Computing**  
**Course Code: IT-101 Part-I (Compulsory)**

**MAX. TIME: 15 Min.**  
**MAX. MARKS: 10**

.....  
Signature of Supdt.:

**Attempt this Paper on this Question Sheet only.**

**Please encircle the correct option. Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

**Q.1. Encircle the right answer, cutting and overwriting is not allowed. (1x10=10)**

1. Before a disk drive can access any record, it has to know the record's disk address. What information does this address specify?
  - a) Track number
  - b) Sector number
  - c) Surface number
  - d) All of these.
2. The disadvantages of DBMS are .....
  - a) Increased size
  - b) Increased complexity
  - c) High impact of failure
  - d) All of these
3. High level languages are easily understandable by .....
  - a) Compilers
  - b) Computers
  - c) Humans
  - d) All of these
4. Which of the following is necessarily nested tag in HTML?
  - a) <li>
  - b) <b|>
  - c) <ul>
  - d) <ol>
5. Suppose you have established a small network of 10 computers using a BUS topology in which the central link (bus) is half-duplex channel running on 10Mbps. Each computer in the network is capable of receiving data at 5Mbps. What is the maximum data rate that these computers can receive over the network?
  - a) 5 Mbps
  - b) 10 Mbps
  - c) 15 Mbps
  - d) 2 Mbps
6. \_\_\_\_\_ is the transmission capacity of a communications channel.
  - a) Network topology
  - b) Network protocol
  - c) Bandwidth
  - d) Transmission mode
7. Assume cell A1=2, B1=3, C1=4; then which of the following will result 3 in Excel?
  - a) =Min(A1:C1)
  - b) =Max(A1:C1)
  - c) =Average(A1:C1)
  - d) =C1+(A1-A1/A1)
8. \_\_\_\_\_ is used to copy the formatting of the selected text.
  - a) Format Painter
  - b) Quick Access Toolbar
  - c) Mini toolbar
  - d) None of these
9. Which of the following is not a type of web browser.
  - a) Google chrome
  - b) Internet explorer
  - c) Wikipedia
  - d) Firefox
10. Which of the following is a correct way to insert a hyperlink in a webpage.
  - a) <a source="www.google.com"> click here </a>
  - b) <a src="http://google.com" > click here </a>
  - c) <a href="http://google.com"> click here </a>
  - d) <hyperlink src="click here"> www.google.com </hyperlink>



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**PAPER: Introduction to Computing**  
**Course Code: IT-101 Part – II**

**MAX. TIME: 2 Hrs. 45 Min.**  
**MAX. MARKS: 50**

**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**QUESTION # 2**

**[20 marks]**

**Write short answers to all of the following questions:**

1. What is response time with respect to multiprocessing?
2. How a worm and a virus are different from each other?
3. Briefly explain the term router.
4. What is a firewall?
5. Differentiate between impact and non-impact printers.
6. What is risk, vulnerability and threat in terms of cyber security?
7. List three e-commerce business models.
8. What is data redundancy in the context of database management system?
9. What is communication protocol?
10. List some classical applications of Artificial Intelligence.

**PART – III (Subjective)**

**QUESTION # 3**

**[10 marks]**

- a) What is virtual memory and how it works? [4]
- b) Discuss the following computer memories: [6]
- i. RAM
  - ii. ROM
  - iii. Cache memory
  - iv. Registers

**QUESTION # 4**

**[10 marks]**

- a) Explain the following types of programming errors with examples of each: [5]
- i. Run-time error
  - ii. Syntax error
  - iii. Logical error

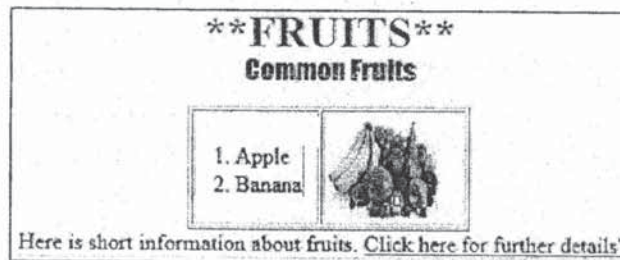
**P.T.O.**

- b) Discuss the following LAN topologies with respect to performance, fault tolerance and scalability. [5]
- i. BUS
  - ii. Star
  - iii. Mesh
  - iv. Ring

**QUESTION # 5**

**[10 marks]**

- a) Calculate pay of an employee based on the hours worked. The input includes, the employee's total hours worked this week and their hourly pay rate. The employee is to be paid their basic wage for the first 40 hours worked and time-and-a-half (i.e. 50% more) for all hours above 40 (overtime pay). Output the regular pay, overtime pay, and total pay for the week on the console. If the employee worked 40 hours or less, do not output any information about overtime pay. [5]
- b) Write HTML code to produce the following: [5]



1. Here, the text "Fruits" should be a first level heading and has green color.
2. Next line is in center. It has blue color, font-size 20 and in "impact" font.
3. Next a table with 1 row and 2 columns with border. Column one has list. Column two has an image "fruit.jpg" with width and height 100.
4. Next line is simple but contains a hyper link to page <https://fruits.com>



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MAX. MARKS: 10

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Signature of Supdt.:

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**Please encircle the correct option. Division of marks is given in front of each question.**

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**Q.1. Encircle the right answer, cutting and overwriting is not allowed. (1x10=10)**

1. The basic storage unit in memory is \_\_\_\_\_
  - a) Megabyte
  - b) Byte
  - c) Address
  - d) Gigabyte
2. Which of the following is not advantage of magnetic disks:
  - a) Large amount of data can be stored
  - b) Cost per bit storage is low
  - c) Can be erased & reuse many times
  - d) Reading large block of sequential data is easy
3. Which of the following is not advantage of optical disks:
  - a) Have long data storage life
  - b) Cost per bit storage is low
  - c) Can be erased and reused many times
  - d) Reading large block of sequential data is easy
4. In PowerPoint, \_\_\_\_\_ is the process, how a slide will appear after previous slide:
  - a) Format
  - b) View
  - c) Animation
  - d) Transition
5. A \_\_\_\_\_ is a collection of programs that enables users to store, modify and extract information from a database.
  - a) Database management system
  - b) Operating system
  - c) File server
  - d) Webpage
6. A node in a computer network refers to all of following except \_\_\_\_\_.
  - a) Workstations
  - b) Routers
  - c) Hubs
  - d) Cables
7. Which of the following are some of the important uses of computer networks?
  - a) Information sharing
  - b) Resource sharing
  - c) Backup and support
  - d) All of these
8. In HTML \_\_\_\_\_ tags are used to create a table column.
  - a) <tr> </tr>
  - b) <th> </th>
  - c) <tc> </tc>
  - d) <td> </td>
9. In flowcharts \_\_\_\_\_ symbol is used to take inputs and display outputs.
  - a) Diamond
  - b) Rectangle
  - c) Parallelogram
  - d) Square
10. In HTML, \_\_\_\_\_ tag is used to create a drop down list.
  - a) list
  - b) input
  - c) dropdown
  - d) select



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**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**QUESTION # 2**

[20 marks]

Write short answers to all of the following questions:

1. Briefly explain the term Ergonomics.
2. What is the purpose of cache memory in a computer system?
3. What is RAID?
4. Differentiate between half-duplex and full-duplex transmission.
5. What is a Gateway in networking?
6. Briefly explain the concept of pipelining.
7. What is a system clock?
8. Write the steps that a CPU takes while executing a programs.
9. Explain the term “primary key” in database and why it is important for a table?
10. What is data dictionary?

**PART – III (Subjective)**

**QUESTION # 3**

[10 marks]

- a) Discuss ethics in computing with the focus on user, programmer and professional computing issues. [5]
- b) Explain various database models in detail. [5]

**QUESTION # 4**

[10 marks]

- a) Explain the physical structure and data organization of a magnetic disk. [5]
- b) Discuss different types of communication media. [5]

[10 marks]

P.T.O.

### QUESTION #5

- a) Write a program that takes any number of digits from the user, and combines them in the form of one integer variable. The program should first input the number of digits to be taken. Then inputs the digits one by one and calculates the resulting integer value. [5]
- b) Write HTML code to produce the following output: [5]  
Here, the text "Programming Languages" is a first level heading in Cambria font and is centered aligned. The text "Following are few examples of programming languages:" is a regular paragraph followed by an ordered and unordered list. The table with three columns and four rows where first row is table headings and rest is content. The last line contains a hyper link "click here" to [https://en.wikipedia.org/wiki/Programming\\_language](https://en.wikipedia.org/wiki/Programming_language).

## Programming Languages

Following are few examples of programming languages:

1. Low Level Languages
  - Machine language
  - Assembly language
2. High Level Languages
  - C++
  - Java

Language	High Level	Low Level
C++	Yes	No
Assembly	No	Yes
Java	Yes	No

For more information on programming languages [click here](https://en.wikipedia.org/wiki/Programming_language).