HIGHER SECONDARY SECOND YEAR ANSWER KEY
COMPUTER APPLICATIONS

1 MARKS

Q. NO	ANSWER	MARKS
1	b) Multimedia	1
2	a) Zoom tool	1
3	b) Ctrl+A	1
4	a) ===	1
5	d) 3	1
6	b) Conditional	1
7	d) None of the above	1
8	c) foreach loop	1
9	b) Entry-check loop	1
10	b) Network	1
11	b) File Transfer Protocol	1
12	b) Tim Berners Lee	1
13	a) Digital Publishing websites	1
14	b) Extranet	1
15	b) TDCC	1

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2 MARKS

Q. NO	ANSWER	MARKS
16	♦ A document page is displayed within a dark border. ♦ The area outside of the dark border is referred to as the pasteboard. ♦ Anything that is placed completely in the pasteboard is not visible when you print the document. ♦ The use of pasteboard is to temporarily hold elements while designing your document. **(Any 2 point)**	2
17	• The acronym stands for Atomicity, Consistency, Isolation and Durability.	2
18	• Hackers were skilled computer experts, some who with their technical knowledge access our accounts	2
19	**Syntax:** fclose($file_Object);	2
20	✓ It is a website used by organizations to provide a place where employees can access company related information.	1
	✓ It is a private network within an enterprise to share company data and computing resources between the employees.	1
21	♦ A zone is a subset of the Domain namespace generally stored in a file. Zone is defined as a group of contiguous domains and sub domains in the Domain Name Space.	2
22	♦ A significant output of simulation is the trace files. Trace files can document every incident that happened in the simulation and are used for examination.	2

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23	✦ Phishing is acquiring critical data like login credential through telephone, sms, e-mail or any social media by the crackers disguising as authentic.	2
24	**Output:** Hello world	2

3 MARKS

Q. NO	ANSWER	MARKS
25	▪ TIFF (Tagged Image File Format) ▪ BMP (Bitmap) ▪ DIB (Device Independent Bitmap) ▪ GIF (Graphics Interchange Format) ▪ JPEG (Joint Photographic Experts Group) ▪ TGA (Tagra) ▪ PNG (Portable Network Graphics)	3
26	▪ Any text or object that you place on the master page will appear on the entire document pages to which the master is applied. ▪ It shortens the amount of time because you don't have to create the same objects repeatedly on subsequent pages. ▪ Master Pages commonly contain repeating logos, page numbers, headers and footers.	3
27	In Entity Relationship Model, relationship exists between two entities. ▪ One-to-One relationship ▪ One-to-Many relationship ▪ Many-to-Many relationship **(Explain each one)**	3
28	**PHP supports three different set of tags:** ❖ PHP Default tags ❖ Short open tags ❖ HTML Script embed tags. **1. PHP Default tags:** In the PHP Default tags, PHP code is enclosed in <?php and ?> tags. **2. Short open tags:** Short open tags are an alternative to the default syntax, and they allow you to use <? and ?> instead of <?php and ?>. **3. HTML Script embed tags:** You can also embed PHP code within HTML script tags, like this: <script language="php"> // PHP code </script>	3
29	**Output:** x is equal to 5	3
30	**TCP/IP Reference Model:** ➢ **Network Access Layer** - Concerned with building packets. ➢ **Internet Layer** - Describes how packets are to be delivered. ➢ **Transport Layer** - Ensure the proper transmission of data. ➢ **Application Layer** - Application network processes. These processes include File Transfer Protocol (FTP), Hyper Text Transfer Protocol (HTTP), and Simple Mail Transfer Protocol (SMTP)	3

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31	**RJ45 connector.**	
	✓ The RJ45 connector looks similar like a telephone jack but it looks a slightly wider. In RJ45 the "RJ" stands for registered jack and the "45" simply refers to the interface standard. ✓ The RJ45 connector is a small plastic cube. It has eight pins. It is connected to each end of the Ethernet cable. It is also known as 8P8C connector. These plugs are inserted into Ethernet port of the network card.	3
32	**Anatomy of a credit card:** **1. Publisher:** Emblem of the issuing bank. **2. Credit card number:** The modern credit card number has 16-digit unique identification number. **3. Name of the cardholder:** It is visibly embossed on the front side of the card. **4. EMV chip:** It is integrated chip in addition to magnetic stripe to store cardholder's information. **5. RFID symbol:** It indicates that it is a contactless smartcard. **6. Expiration month and year:** The card is valid until the last day of the month printed on it. **7. Card brand logo:** It is the name of the credit card network company. **Eg:** Visa and MasterCard Rupay. **8. Magnetic stripe:** It is an iron based magnetic material containing encrypted data about the card holder and account number. **9. Hologram:** Hologram is a security feature that prevents duplication **10. Signature:** It is cardholder's signature at the back of the card **11. CVC/CVV:** Card Verification code/ value is a 3 digit code usually printed to the left of signature pane validates the card. **(Write Any 5)**	3
33	**MySQLi Queries:** "mysqli_query" is a function, helps to execute the SQL query statements in PHP scripting language. **Syntax:** mysqli_query("Connection Object","SQL Query")	3

5 MARKS

Q. NO	ANSWER	MARKS
34 A)	**Different file formats in multimedia files:** **Text Formats:** ☺ **RTF:** Rich Text Format is the primary file format introduced in 1987 by Microsoft with the specification of their published products and for cross-platform documents interchange. ☺ **Plain text:** Plain text files can be opened, read, and edited with most text editors. **Image Formats:** ✿ **TIFF (Tagged Image File Format):** This format is common in desktop publishing world (high quality output), and is supported by almost all software packages. ✿ Recent versions of TIFF allows image compression, and the format is comfortable for moving large files between computers.	5

- ⚙ **DIB (Device Independent Bitmap):** This format which is similar to BMP, allows the files to be displayed on a variety of devices.
- ⚙ **GIF (Graphics Interchange Format):** GIF is a compressed image format. Most of the computer colour images and backgrounds are GIF files.
- ⚙ **JPEG (Joint Photographic Experts Group):** JPEG was designed to attain maximum image compression. It uses compression technique, where a compression method is referred that loses some of the data required for the image reconstruction.
- ⚙ **PNG (Portable Network Graphics):** An extensible file format for the less loss, portable and well compressed storage of raster images. PNG acts as replacement for GIF and also replaces multiple common uses of TIFF.

Digital Audio File Formats:
- ✱ **WAV (Waveform Audio File Format):** It is the most popular audio file format in windows for storing uncompressed sound files. In order to attain the reduced file size it can also be converted to other file formats like MP3.
- ✱ **MP3 (MPEG Layer-3 Format):** MPEG Layer-3 format is the most popular format for storing and downloading music.
- ✱ **AIFF (Audio Interchange File Format):** A standard audio file format used by Apple which is like a WAV file for the Mac.
- ✱ **WMA (Windows Media Audio):** It is a popular windows media audio format owned by Microsoft. WMA is a file extension used with windows media player.

Digital Video File Formats:
- ▣ **AVI (Audio/Video Interleave):** AVI is the video file format for Windows. Here sound and picture elements are stored in alternate interleaved chunks in the file.
- ▣ **MPEG (Moving Picture Experts Group):** MPEG is a standard for generating digital video and audio compression under the International Standards Organization (ISO) by the group of people. Simply MPEG is the standards for digital video and audio compression.

34 B)	**Types of attributes:** 1. Key Attribute 2. Simple Attributes 3. Composite Attributes 4. Single Valued Attribute 5. Multi Valued Attribute

Types of attributes:
1. Key Attribute 2. Simple Attributes 3. Composite Attributes
4. Single Valued Attribute 5. Multi Valued Attribute

1. Key Attribute: Generally a key attribute describes a unique characteristic of an entity.

2. Simple Attribute: The simple attributes cannot be separated it will be having a single value for their entity.
Example: The name as the attribute for the entity employee and here the value for that attribute is a single value.

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	3. **Composite Attributes:** The composite attributes can be subdivided into simple attributes without change in the meaning of that attribute. **Example:** In the above diagram the employee is the entity with the composite attribute Name which are sub-divided into two simple attributes first and last name. **4. Single Valued Attributes:** A single valued attribute contains only one value for the attribute and they don't have multiple numbers of values. **Example:** Age. It is a single value for a person as we cannot give n number of ages for a single person, therefore it is a single valued attribute.	5

Single Valued Attributes

Attribute	Values
Age	15
Roll No	134

	5. **Multi Valued Attributes:** A multi valued attribute has more than one value for that particular attribute. **Example:** Degree. A person can hold n number of degrees so it is a multi-valued attribute.	

Multi Valued Attributes

Attribute	Values
Degree	B.A, M.A
Hobbies	Reading, Drawing

35 A)	**To place text in a Frame:** ♦ Click on one of a Frame tool from the Toolbox. ♦ Draw a frame with one of PageMaker's Frame tools (Rectangle frame tool or Ellipse Frame Tool or Polygon frame Tool). Make sure the object remains selected. ♦ Click on File. The File menu will appear. ♦ Click on Place. The Place dialog box will appear. ♦ Locate the document that contains the text you want to place, select it. ♦ Click on Open. ♦ Click in a frame to place the text in it. The text will be placed in the frame.	5
35 B)	**Data types in PHP:** Value assigned to variables in PHP will be of a set data type. **Types:** 1. Interger 2. Float 3. String 4. Boolean 5. Array 6. Object 7. Resource 8. NULL **1. Integer:** Integer is a data type which contains whole numbers. It can be Positive, Negative or zero. **Eg:** $age = 30; $count = -10; **2. Float:** Float is a data type which contains decimal numbers. **Eg:** $price = 19.99; $weight = 65.5;	5

3. String: String is a data type which contains a sequence of characters enclosed in single (') or double quotes (" ")
Eg: $name = "Bharath"; $message = 'Hello, World!';

4. Boolean: Boolean is a data type which contains the value True or False.
Eg: $is_admin = true; $is_logged_in = false;

5. Array: An array is a data type which has multiple values in a single variable.
Eg: $prices = array(10, 20, 30); $items = array("item1","item2", "item3"); $prices = array(19.99, 24.99,29.99)

6. Object: An object is a data type that represents an instance of a class.
Eg: $user = new User(); $product = new Product();

7. Resource: A resource is a special data type of data that represents a connection to an external resource, such as a file or a data base.
Eg: $fp = fopen("file.txt", "r"); // $fp is a resource.
$conn = mysqli_connect("localhost", "username", "Password", "database"); //$conn is a resource

8. NULL: NULL is a special data type which contains NULL value. A null value simply means no value. The keyword NULL is not case sensitive
Eg: $x = null; $y= " ";

| 36 A) | **Types of network cables:** **1.Coaxial Cables :** This cable is used to connect the television sets to home antennas. It has a copper wire inside and insulation is covered on the top of the copper wire to provide protection to the cable. It is very difficult to install and maintain, because they are too big to carry and replace. This cable is used to transfer the information at 10mbps speed. The cable is classified into thin net and thick net cables.

2.Twisted Pair Cables: It is type of cable with two or more insulated wires twisted together. This twisted cable has 8 wires which are twisted to ignore electromagnetic interference. There are two types of twisted pair cables, Unshielded Twisted Pair (UTP) and Shielded Twisted pair (STP). The UTP is used nowadays as modern cables for Internet and they are lower in cost and installation and maintenance is easy compared to the coaxial cables. STP is similar to UTP, but it is covered by an additional jacket to protect the wires from External interference.

3.Fiber Optics: This cable is made by using strands of glass. It uses pulses of light to send the information. They are mainly used in Wide Area Network (WAN). These cables are placed in deep underground to avoid any damage to the cables. There are two types of fiber- | 5 |

optic cables available, One is single-mode another one is multimode. Single-mode cables are used for long distance transmission and at a high cost whereas the multimode cables are used for short distance transmission at a very low cost. The optic cables are easy to maintain and install.

4.USB Cables:

The Universal Serial Bus are used to connect keyboard, mouse and other peripheral devices. Micro USB is a miniaturized version of the USB used for connecting mobile devices such as smart phones, GPS devices and digital cameras. The latest version of USB is USB 3.0 which has the data transfer rate 4.85 Gbps.

5.Serial and Parallel cables:

Before Ethernet cable was invented, the serial and parallel interface cables were used to connect the system to the internet. They were sometime used for PC to PC networking.
Ex: RS232 cable
The serial cable send 1 bit at a time whereas the parallel port send 8 bit at a time.

6.Ethernet Cables:

This is a type of twisted pair cable. It is the most common type of network cable mainly used for connecting the computers or devices at home or office. This cable connects wired devices within the local area network (LAN) for sharing the resources and accessing Internet.

36 B)	**E-COMMERCE BUSINESS MODELS:** 1.Business to Business (B2B) 2.Business to Consumer (B2C) 3.Business to Government (B2G) 4.Consumer to Business (C2B) 5.Consumer to Consumer (C2C) 6.Consumer to Government (C2G) 7.Government to Business (G2B) 8.Government to Consumer (G2C) 9.Government to Government (G2G) **1. Business to Business (B2B):** In B2B E-Commerce, commercial transactions take place between different business organizations, through the Internet. **Eg:** a cycle company may buy tyres from another company for their cycles. When compared to other models, the value per transaction in B2B transaction is high, because of bulk purchases. **2. Business to Consumer (B2C):** In B2C E-Commerce, commercial transactions take place between business firms and their consumers. It is the direct trade between companies and end-consumers via the Internet. An example of B2C transaction is a book company selling books to customers. This mode is intended to benefit the consumer and can say B2C. E-Commerce works as "retail store" over Internet.		5

	3. Business to Government (B2G): B2G is a business model that refers to business organizations sells products, services or information to Governments or to its administrations. In other words, when a company get paid for its goods, services by the Government through Internet it is called as B2G model. **Eg:** The Government or its administration buys laptops for students. **4. Consumer to Business (C2B):** C2B can be described as a form of E-Commerce where, the transaction is originated by the consumers. The consumers will fix a requirement or specific price for a service or a commodity. C2B model, is also called as reverse auction model. Here, customer bid his price for a service or a product. Then E-Commerce business entity will match the requirement of the consumer to the best possible extent. **5. Consumer to Consumer (C2C):** C2C in E-Commerce provides opportunity for trading of products or services among consumers who are connected through the Internet. In brief when something is bought and sold between two consumers using Internet it is called C2C E-Commerce. For example, a consumer who wants to sell his property can post an advertisement on the website (eg:timesclassifieds.com). **6. Consumer to Government (C2G):** Citizens as Consumers and Government engage in C2G E-Commerce. Here an individual consumer interacts with the Government. C2G models usually include income tax or house tax payments, fees for issuance of certificates or other documents. People paying for renewal of license online may also fall under this category. **7. Government to Business (G2B):** G2B is closely related to B2G. G2B in E-Commerce refers to a business model where Government providing services or information to business organization. It may be a formal offer such as a takeover bid for a road project. **8. Government to Consumer (G2C):** G2C in E-Commerce is very similar to C2G. Here the Government provides platform for its citizens to avail its services and information through the Internet. The services may be issue of certificates through online. E.g. https://csc.gov.in/governmenttocitizen **9. Government to Government (G2G):** G2G is the online (usually non-commercial) interaction between Government organizations or departments. G2G's principle objective is to implement e-governance rather than commerce. G2G model in e-governance involves distributing data or information between its agencies/departments.	
37 A)	**Internet Banking:** 💻 Internet banking is a collective term for E-banking, online banking, virtual banking, direct banks, web banking and remote banking.	

	🖥 Internet banking allows customers of a financial institution to conduct various financial transactions on a secure website operated by the banking institutions.	**5**
	🖥 This is a very fast and convenient way of performing any banking transactions.	
	🖥 It enables customers of a bank to conduct a wide range of financial transactions through its website.	
	🖥 In fact, it is like a branch exclusively operating of an individual customer.	
	🖥 The online banking system will typically connect to the core banking system operated by customers themselves (Self-service banking).	

Advantages:
- Account holder are secured by user name and password while doing payments.
- Accounts can be accessed with Internet anywhere at any time.
- Any standard browser (e.g. Google Chrome) is adequate.
- Internet banking does not need installing any additional software.

Mobile Banking :
- Mobile banking is another form of net banking.
- The term mobile banking (also called m-banking) refers to the services provided by the bank to the customer to conduct banking transactions with the aid of mobile phones.
- These transactions include balance checking, account transfers, payments, purchases, etc. Transactions can be done at anytime and anywhere.
- The WAP protocol installed on a mobile phone helps the user have a permanent control over the account and remote management of his own finances.

Mobile Banking operations can be implemented in the following ways:

Contacting the call Centre.

Automatic IVR telephone service.

❖ Using a mobile phone via SMS.

❖ WAP technology.

❖ Using smart phone applications.

37 B)	**Advantages of EDI:**	
	✹ EDI was developed to solve the problems inherent in paper-based transaction processing and in other forms of electronic communication.	
	✹ Implementing EDI system offers a company greater control over its supply chain and allow it to trade more effectively.	
	✹ It also increases productivity and promotes operational efficiency.	**5**
	The following are the other advantages of EDI:	
	➢ Improving service to end users	

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	➢ Increasing productivity. ➢ Minimizing errors ➢ Slashing response times ➢ Automation of operations ➢ Cutting costs. ➢ Integrating all business and trading partners. ➢ Optimizing financial ratios.	

38 A)	**Multidimensional array**:
	In PHP, a multidimensional array is an array that contains one or more arrays as its elements. The elements of a multidimensional array can themselves be arrays, creating an array of arrays, also known as a nested array.
	
	Example 1: A multidimensional array that contains one array as its element:
	$arr = array(array(1, 2, 3),);
	echo $arr[0][1]; // Output will be 2.
	
	❀ This array contains one element, which is an array containing three integers.
	❀ You can access the elements of this array using two sets of square brackets, with the first set specifying the row and the second set specifying the column.
	
	Example 2: A multidimensional array that contains three arrays as its elements:
	$arr = array(array(1, 2, 3), array(4, 5, 6), array(7, 8, 9));
	echo $arr[1][2]; // Output will be 6.
	
	❀ We can access the elements of the array using two sets of square brackets, with the first set specifying the row and the second set specifying the column.
		5

38 B)	**To print the numbers from 10 to 1 in descending order using loop:** `<?php` `for ($i=10; $i>=1;$i--)` `{` `echo $i. " ";` `}` `?>` **Output:** 10 9 8 7 6 5 4 3 2 1	5

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