Padasalai’s Telegram Groups!

(தாசுப்பெற்ற கிளிப் கட்டார விளையாடக் கிளிக் செய்யவும் திறக்கவும்!)

- Padasalai's NEWS - Group
  https://t.me/joinchat/NIfCqVRBNj9hhV4wu6_NqA

- Padasalai's Channel - Group
  https://t.me/padasalaichannel

- Lesson Plan - Group
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- 12th Standard - Group
  https://t.me/Padasalai_12th

- 11th Standard - Group
  https://t.me/Padasalai_11th

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- 6th to 8th Standard - Group
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Virudhunagar District Common Examinations
Common First Revision Test - January 2020
Standard 12
COMPUTER APPLICATIONS
PART - I

CHOOSE THE BEST ANSWER:

1. File
2. Row
3. \n
4. Vector array
5. Hello friend
6. Bounded loops
7. Fread()
8. 1
9. Resource
10. HTTPS
11. 128
12. OTCL and c++
13. Mobile apps
14. Electronic clearing service
15. TDCC

PART - II

16. List any four applications of Multimedia.

Multimedia applications are
- Education
- Entertainment
- Business Systems

Send Your Questions and Answers to Our Email Id - padasalai.net@gmail.com
17. Write the syntax of 'UPDATE' command in MySQL
SQL provides us with modifying and updating the existing records in a table using UPDATE command.
Syntax1: UPDATE tablename SET column1="new value" Where column2="value2";
Example: mysql>UPDATE Biodata SET age=13 WHERE firstname="Krishna";

18. Define Associative Array.
Associative Arrays:
Associative arrays are a key-value pair data structure. Instead of having storing data in a linear array, with associative arrays you can store your data in a collection and assign it a unique key which you may use for referencing your data.
Associative Arrays Syntax
array(key=>value,key=>value,key=>value,etc.);
key = Specifies the key (numeric or string)
value = Specifies the value

19. Explain if else statement in PHP.
If else statement in PHP:
➢ If statement executes a statement or a group of statements if a specific condition is satisfied by the user expectation.
➢ When the condition gets false (fail) the else block is executed.
Syntax:
    if (condition)
    { Execute statement(s) if condition is true;
    }
    else
    { 
    Execute statement(s) if condition is false;
    }

Example:
<?php $num=12;
if($num%2==0) 
{
 echo "$num is even number";
} else {
    echo "$num is odd number";
}?

Output:
12 is even number

20. What is MySQLi?
   - MySQLi is an extension in PHP scripting language which gives access to the MySQL database.
   - MySQLi extension was introduced in version 5.0.0.

21. Expand HTTP, SMTP.
    HTTP - Hypertext Transfer Protocol
    SMTP - Simple Mail Transfer Protocol

22. Write a short note on Domain name space.
    - Domain name space was designed to achieve hierarchical name space.
    - In this, the names are represented as a tree-like structure with root element on the top and this tree can have a maximum of 128 levels starting from root element taking the level 0 to level 127.

23. Explain NRCFOSS.
    - National Resource Centre for Free and Open Source Software an Institution of Government of India.
    - To help in development of FOSS in India.

24. What is E-Commerce security?
    - E-Commerce security is a set of protocols that safely guide E-Commerce transactions through the Internet.

PART - III

25. What is threading text blocks in pagemaker?
    - A Text block can be connected to other text block so that the text in one text block can flow into another text block.
    - Text blocks that are connected in this way are threaded.
    - The process of connecting text among Text blocks is called threading text.

26. What are assignment operators used in PHP?
Assignment Operators:

- Assignment operators are performed with numeric values to store a value to a variable.
- The default assignment operator is “=”. This operator sets the left side operand value of expression to right side variable.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Similar to</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>x = y</td>
<td>x = y</td>
<td>This operator sets the left side operand value of expression to right side variable</td>
</tr>
<tr>
<td>x += y</td>
<td>x = x + y</td>
<td>Addition</td>
</tr>
<tr>
<td>x -= y</td>
<td>x = x - y</td>
<td>Subtraction</td>
</tr>
<tr>
<td>x *= y</td>
<td>x = x * y</td>
<td>Multiplication</td>
</tr>
<tr>
<td>x /= y</td>
<td>x = x / y</td>
<td>Division</td>
</tr>
<tr>
<td>x %= y</td>
<td>x = x % y</td>
<td>Modulus</td>
</tr>
</tbody>
</table>

27. Compare ‘for loop’ and ‘for each loop’.

<table>
<thead>
<tr>
<th>for loop</th>
<th>for each loop</th>
</tr>
</thead>
<tbody>
<tr>
<td>For loop is an important functional looping system which is used for</td>
<td>For each loop is exclusively available in PHP. It works only with arrays. The loop</td>
</tr>
<tr>
<td>iteration logics when the programmer know in advance how many times the</td>
<td>iteration deepens on each KEY Value pair in the Array. For each, loop iteration the</td>
</tr>
<tr>
<td>loop should run.</td>
<td>value of the current array element is assigned to $value variable and the array</td>
</tr>
<tr>
<td></td>
<td>pointer is shifted by one, until it reaches the end of the array element.</td>
</tr>
<tr>
<td>for (init counter; test counter; increment counter) {</td>
<td>for each ($array as $value) {</td>
</tr>
<tr>
<td>code to be executed;</td>
<td>code to be executed;</td>
</tr>
<tr>
<td>}</td>
<td>}</td>
</tr>
</tbody>
</table>

28. Explain the two types of validation in PHP.

- Validation is a process of checking the input data submitted by the user from client machine.
- There are two types of validation available in PHP.

They are

1. **Client-Side Validation**
2. **Server Side Validation**

**Client-Side Validation**: The input data validations are performed on the client machine’s web browsers using client side scripts like Java script or adding “required” attribute in HTML input tags.
Server Side Validation: After the submission of data, validations are performed on the server side using the programming like PHP, ASP or JSP etc. available in the server machine.

29. What are the disadvantages of Internet?
Disadvantages of Internet

- Simply wasting the precious time on Internet by surfing, searching unwanted things.
- Lot of unnecessary information is also there, why because any one can post anything on their webpage, blogs.
- Hackers and viruses can easily theft our more valuable information available in the Internet. There a lot of security issues are there in E-banking.

30. Write a note on Patch cable.
Patch Cable (Twisted Pair)

- These Cables are generally made up of 8 wires in different colors.
- Four of them are solid colours, and the others are striped.
- The eight colors are white green, green, white orange, blue, white blue, orange, white brown and brown.
- Ethernet cables are normally manufactured in several industrial standards such as Cat 3, Cat 5, Cat 6, Cat 6e and cat 7.
- “Cat” simply stands for “Category,” and the following number indicates the version.
- Latest version denotes faster and higher frequencies, measured in Mhz. Increasing the size of the cable also lead to slower transmission speed.

31. What are the limitation of E-Commerce?

- People won’t buy all products online
- Competition and Corporate vulnerability
- Security
- Customer loyalty
- Shortage of skilled employees
- Size and value of transactions

32. Explain briefly the Anatomy of credit card.

1. Publisher
2. Credit card number
3. Name of the cardholder
33. List various layers of EDI.

EDI Layers:
Electronic data interchange architecture specifies four different layers namely
1. Semantic layer
2. Standards translation layer
3. Transport layer
4. Physical layer

PART - IV

34. A. Steps in Multimedia Production

1. Conceptual Analysis and Planning
   Conceptual analysis identifies a appropriate theme, budget and content availability on that selected theme. Additional criteria like copyright issues also are considered in this phase.

2. Project design
   Once the theme is finalized objectives, goals, and activities are drawn for the multimedia project. General statements are termed as goals. The specific statements in the project is known as the objectives. Activities are series of actions performed to implement an objective. These activities contribute to the Project design phase.

3. Pre-production
   Based on the planning and design, it is necessary to develop the project. The following are the steps involved in pre-production:

4. Budgeting
   Budgeting for each phases like consultants, hardware, software, travel, communication and publishing is estimated for all the multimedia projects.

5. Multimedia Production Team
   The production team for a highend multimedia project requires a team efforts. The team comprises of members playing various roles and responsibilities like Script writer, Production manager, Editor, Graphics Architect, Multimedia Architect and Web Master.

6. Hardware/Software Selection
All multimedia Application requires appropriate tools to develop and playback the application. Hardware includes the selection of fastest CPU, RAM and huge monitors, sufficient disc for storing the records. Selection of the suitable software and file formats depends on the funds available for the project being developed.

7. Defining the Content
Content is the "stuff" provided by content specialist to the multimedia architect with which the application is developed, who prepares the narration, bullets, charts and tables etc.

8. Preparing the structure
A detailed structure must have information about all the steps along with the timeline of the future action. This structure defines the activities, responsible person for each activity and the start/end time for each activity.

9. Production
In the multimedia application, after the pre-production activities, the production phase starts. This phase includes the activities like background music selection, sound recording and so on. Text is incorporated using OCR software, Pictures shot by digital camera, Video clips are shot, edited and compressed. A pilot project is ready by this time.

10. Testing
The complete testing of the pilot product is done before the mass production to ensure that everything is in place, thereby avoiding the failure after launch. If it's a web based product, its functioning is tested with different browsers like Internet Explorer, Chrome, Mozilla and Netscape Navigator. If it is a local multimedia application on a LAN it must be deployed in the server for testing purpose.

11. Documentation
The documentation has all the valuable information's starting from the system requirement till the completion of testing. Contact details, e-mail address and phone numbers are provided for technical support and sending suggestions and comments.

12. Delivering the Multimedia Product
A multimedia application is delivered in a more effective way by the integration of two mediums CD-ROM/DVD and Internet.

B. Tools in Pagemaker Tool Box:
35. **DBMS Database Models:**

The major database models are

**Hierarchical Database Model**

The famous Hierarchical database model was IMS (Information Management System), IBM’s first DBMS. In this model each record has information in parent/child relationship like a tree structure. The collection of records was called as record types, which are equivalent to tables in relational model. The individual records are equal to rows.

**Network model**

The first developed network data model was IDS (Integrated Data Store) at Honeywell. Network model is similar to Hierarchical model except that in this model each member can have more than one owner. The many to many relationships are handled in a better way. This model identified the three database components Network schema, Sub schema and Language for data management.

**Network schema** - schema defines all about the structure of the database.

**Sub schema** - controls on views of the database for the user

**Language** - basic procedural for accessing the database.
The major advantage of this model is the ability to handle more relationship types, easy data access, data integrity and independence. The limitation of network model is difficulty in design and maintenance.

**Relational model**

Oracle and DB2 are few commercial relational models in use. Relational model is defined with two terminologies Instance and Schema.  
**Instance** - A table consisting of rows and columns  
**Schema** - Specifies the structure including name and type of each column.  
A relation (table) consists of unique attributes (columns) and tuples (rows).  

**Object-oriented database model**

This model incorporates the combination of Object Oriented Programming (OOP’s) concepts and database technologies. Practically, this model serves as the base of Relational model. Object oriented model uses small, reusable software known as Objects. These are stored in object oriented database. This model efficiently manages large number of different data types. Moreover complex behaviors are handled efficiently using OOP’s concepts.

**B. Client Server Architecture Model**

Client server architecture is classified into three types, as follows  
- Single Tier Architecture  
- Two Tier Architecture  
- N/Multi/Three tire architecture

**Single Tier Architecture**

This architecture is used for the server, accessed by client. The client application runs inside the server machine itself. This acts as a single layer interaction 1-Tier Architecture

**Two Tier Architecture**

This architecture is used for the server, accessed by client as two layer interactions. Such as Client layer in tire one and server layer in tire Two.
Multi/Three Tier Architecture:
This architecture is used for the server, accessed by client through more than one layer interaction. The programmer could decide the count of business logic layers according to the software requirement that is the reason this model is also known as Multi Three Tire Architecture.

Most of the server side scripting languages is working on any one the client server architecture model. Web server is software which is running in server hardware. It takes the responsibilities for compilation and execution of server side scripting languages.

36. A. Do While Loop:
➢ Do while loop always run the statement inside of the loop block at the first time execution.
➢ Then it is checking the condition whether true or false. It executes the loop, if the specified condition is true.

Syntax:
do {
code to be executed;
} while (condition is true);

Example:
```php
<?php
    $Student_count = 10;
    $student_number=1;
    do
    {
        echo "The student number is: $student_number<br>";
        $student_number++;
    }
    while($student_number<=$Student_count)
?>
```
B. Uses of the Computer

Networks
The computer networks plays major role on providing information to large, small organization as well as individual common man. Nowadays almost all the companies, bank and stores are implemented the computerized transactions. Transaction are going in varies locations. It may be in same campus, building, city, or at different places (or) cities. For all these purpose the computer network use us.

The common uses of computer network are

- Communication
- Resource sharing
- Data (or) software sharing
- Money saving

Communication
Using computer networks, we can interact with the different people with each other at all over the world. It provides a powerful communication among widely separated employees, team, section. They can easily communicate at very low cost via mobile, social media, telephone, e-mail, chatting, video telephone, video conferencing, SMS, MMS, groupware etc...

Resource sharing
Resource sharing means one device accessed by many systems. It allows all kind of programs, equipment’s and available data to anyone via network to irrespective of the physical location of the resource of them. Simply resource sharing is sharing such as printers, scanner, PDA, fax machine, and modems. For example, many computers can access one printer if it is in networks.

Software (or) Data sharing
Using computer network, similarly application or other software will be stored at central computer or server. We can share one software from one to another. It provides high reliability source of the data. For example, all files can not be taken backup or duplicate on more than one computer. So if one is not unavailable due to hardware failure or any other reason, the copies can be used.

Money saving
Using the computer networking, it’s important financial aspect for organization because it saves money. It reduces the paper work, man power and save the time.

37. OSI Layers:
1. Physical Layer:
This is the 1st layer, it defines the electrical and physical specifications for devices.
2. Data Link Layer:
It is the 2nd layer and it guarantees that the data transmitted are free of errors. This layer has simple protocols like “802.3 for Ethernet” and “802.11 for Wi-Fi”.

3. Network Layer:
   It is the 3rd layer determining the path of the data packets. At this layer, routing of data packets is found using IP Addressing.

4. Transport Layer:
   It is the 4th layer that guarantees the transportation/sending of data is successful. It includes the error checking operation.

5. Session Layer:
   It is the 5th layer, identifies the established system session between different network entities. It controls dialogues between computers. For instance, while accessing a system remotely, session is created between your computer and the remote system.

6. Presentation Layer:
   It is the 6th layer that does the translation of data to the next layer (Prepare the data to the Application Layer). Encryption and decryption protocols occur in this layer such as, Secure Socket Layer (SSL).

7. Application Layer:
   It is the 7th layer, which acts as the user interface platform comprising of software within the system.

B. Ethernet Cable Color Coding Techniques
   There are three types of wiring techniques to construct the Ethernet cable. It is also known as color coding techniques. They are
   - Straight-Through Wiring
   - Cross-over Wiring
   - Roll-over Wiring

   **Straight-Through Wiring**
   In general, the Ethernet cables used for Ethernet connections are “straight through cables”. These cable wires are in the same sequence at both ends of the cable, which means that pin 1 of the plug on one end is connected to pin 1 of the plug on the other end (for both standard - T568A & T568B). The straight through wiring cables are mostly used for connecting PC / NIC card to a hub. This is a simple physical connection used in printers, computers and other network interfaces.
Cross-over Wiring
If you require a cable to connect two computers or Ethernet devices directly together without a hub, then you will need to use a Crossover cable instead. Then the pairs (Tx and Rx lines) will be crossed which means pin 1 & 2 of the plug on one end are connected with pin 3 & 6 of the plug on other end, and vice versa (3 & 6 to pin 1 & 2). The easiest way to make a crossover cable is to make one end to T568A colour coding and the other end to T568B. Another way to make the cable is to remember the colour coding used in this type. Here Green set of wires at one end are connected with the Orange set of wires at another end and vice versa. Specifically, connect the solid Green (G) with the solid Orange, and connect the green/white with the orange/white.

Roll-over Wiring
Rollover cable is a type of null-modem cable that is often used to connect a device console port to make programming changes to the device. The roll over wiring have opposite pin arrangements, all the cables are rolled over to different arrangements. In the rollover cable, The coloured wires are reversed on other end i.e. The pins on one end are connected with other end in reverse order. Rollover cable is also known as Yost cable or Console cable. It is typically flat (and light blue color) to distinguish it from other types of network cabling.

These all the three arrangements are used to perform an interface change. But, all the three arrangements transmits the data at the same speed only.
38. **Unified Payments Interface:**
- Unified Payments Interface (UPI) is a real-time payment system developed by National Payments Corporation of India (NPCI) to facilitate inter-bank transactions.
- It is simple, secure and instant payment facility.
- This interface is regulated by the Reserve Bank of India and used for transferring funds instantly between two bank accounts through mobile (platform) devices. http://www.npci.org.in/
- UPI withdraws and deposits funds directly from the bank account whenever a transaction is requested.
- It also provides the “peer to peer” collect request which can be scheduled and paid as per requirement and convenience.
- UPI is developed on the basis of Immediate Payment Service (IMPS).
- To initiate a transaction, UPI applications use two types of address - global and local.
  - Global address includes bank account numbers and IFSC.
  - Local address is a virtual payment address.
  - Virtual payment address (VPA) also called as UPI-ID, is a unique ID similar to email id (e.g. name@bankname) enable us to send and receive money from multiple banks and prepaid payment issuers.
  - Bank or the financial institution allows the customer to generate VPA using phone number associated with Aadhaar number and bank account number.
  - VPA replaces bank account details thereby completely hides critical information.
  - The MPIN (Mobile banking Personal Identification number) is required to confirm each payment.
  - UPI allows operating multiple bank accounts in a single mobile application.
  - Some UPI application also allows customers to initiate the transaction using only Aadhaar number in absence VPA.

**B. Encryption technology**
- Encryption technology is an effective information security protection.
- It is defined as converting a Plaintext into meaningless Cipher text using encryption algorithm thus ensuring the confidentiality of the data.
- The encryption or decryption process use a key to encrypt or decrypt the data.
- At present, two encryption technologies are widely used. They are symmetric key encryption system and an asymmetric key encryption system. **Symmetric key encryption**
The Data Encryption Standard (DES) is a Symmetric key data encryption method.
It was introduced in America in the year 1976, by Federal Information Processing Standard (FIPS).
DES is the typical block algorithm that takes a string of bits of clear text (plaintext) with a fixed length and, through a series of complicated operations, transforms it into another encrypted text of the same length.

Asymmetric or Public key encryption
- Asymmetric encryption also called as RSA (Rivest-Shamir-Adleman) algorithm.
- It uses public-key authentication and digital signatures.
- This raises the problem of key exchange and key management.
- Unlike a symmetric encryption, the communicating parties need not know other's private key in asymmetric encryption.
- Each user generates their own key pair, which consists of a private key and a public key.
- A public-key encryption method is a method for converting a plaintext with a public key into a cipher text from which the plaintext can be retrieved with a private key.