Tab 1

Questions:

1.What is a Data dictionary?

Data Dictionary is the meta data of SAP Database.

~~Central repository of the SAP system where we define and maintain obj related to DB used in SAP.~~

2.What are the different types of data dictionary objects in ABAP?

Tables, Structures, Data elements, Domains, Search help, Lock objects, Views, Type group.

3.What are field symbols and their use.

Field symbols are pointers for the data objects(directly points to the memory of the data).

They allow dynamic assignment of values and provide a way to access and manipulate data without knowing the actual data type and enhancing performance by avoiding data copying.

4. What is the internal table in ABAP ?

An internal table is a temporary table which contains the record/data of the program that is being executed.It is defined in the SAP ABAP program.

5. Difference b/w a structure and a table in SAP ABAP?

Structure: It is collection of fields which has different data types or same data types
Does not store any date permanently.
Does not have a primary key.
Used to hold data in program execution

Table: Store data permanently in a structured format.
Have primary key.

6.Difference b/w a function module and a subroutine in ABAP?

FM : Global modularization technique.
Reusable block of code can be called from any program.
Scope - execute independently.

Subroutine : Local modularization tech.
Reusable block of code can be called within the program they are defined.
Scope - within the ABAP program, can't be execute independently

7.What is lock object in ABAP?

It is a technique to control the access to data records in sap.

8.What is check and value table?

Check table : Validates at data field level -> checking that only permissible data is stored

in the database field of primary table. Ensure foreign key relationship or data relationship between two table.

Value table:Validates at domain level -> provide list of allowed values to be given for a particular field at domain level.

9.Difference b/w a work area and an internal table in ABAP?

Work Area -> Temporary storage area -> used to store and process single record from the table.

Internal Table -> Temporary table -> used to store multiple records in the row & column format.

1**0.What is purpose of the MESSAGE statement in SAP ABAP?**

MESSAGE st. used to display message to the user during prog execution. It is used to convey info , error msg, successful msg or warning message during program execution.

11.Difference b/w classical report & Interactive report.

Classical Report -> It is basic single list output report-> no manipulation , interaction is done.

Interactive Report -> It is report where it allows user interaction by clicking on the output to navigate into more detailed levels of data.

12.Mention some important events in ABAP programming.

Events : Predefined actions define by SAP. It make the program to run in sequence to avoid conflicts/confusion.

Events list:

Intialization.
At Selection-screen.
Start of Selection.
End of Selection.
Top of page.
Bottom of page.

13.Difference b/w ECC & S/4 Hana.

ECC : Runs on various db such as oracle , MySQL.
Data retrival & processing will not be fast as S/4 Hana.
No cloud premises.

S/4 Hana : Runs on its own Hana DB.
Data retrival & processing will be fast.
Cloud premises is there.

14.How to optimize the performance of ABAP Program?

Avoid Select * instead select req.field.

Avoid select statement inside the loop.
Use binary search when using read statement.
Avoid nested loops.
Minimum data access from the db.
Use performance tools

15.What is an RFC (Remote Function Call) in SAP?

RFC is a communication method in SAP that allows a program to execute a function module in a different system. It works as an interface b/w systems to transfer data.

16.**What are the main principles of Object-Oriented Programming (OOP)?**

Encapsulation – Bundle the data and methods to single unit called class and restricting direct access to details (object components), but allowing access through methods defined in the class .

Inheritance – It is a concept where the new class (child) acquires the properties and behaviours of the existing class (called parent). It helps in reusability, scalability, and maintainability.

Polymorphism – Allowing different class to use the same method with different functionalities. Eg : Sound() -> dog barks , cat meows.

Abstraction – Hides the internal/unnecessary implement details and shows/provides the necessary details only - Eg: start_car but we don't care how the car engine starts.

Advantages of abstraction

17 . Difference b/w oo ABAP and normal ABAP.

Normal ABAP	**OO ABAP**
Code organised in the form of subroutines and FM - Functional Modules	Code organised in the form of class ,methods and objects
No data hiding, all data is globally accessible.	Data hiding positive through private , public and protected sections in a class
Same Code is repeated in multiple places.	Code is reusable using inheritance and polymorphism.
Maintainability: Harder to maintain as programs grow larger	Maintainability: Easier to maintain with this modularization.

18. Concepts in OOABAP ?

Class -> Collection of attributes and methods

Objects -> Instance of a class , created to use class properties.

Encapsulation

Inheritance

Polymorphism

Abstraction

Interfaces

Constructor

Events

19. What are Class and Objects?

Class -> Collection of attributes and methods

Objects -> Instance of a class , created to use class properties ->

20. Types of class.

Global Class - Created globally , reusable by any prog.

Local Class - Created locally for a single program , can't be reusable.

Final Class - Inheritance is not possible in this class.

Abstract class - Class which contains at least one abstract method definition. it can be implemented only though its subclass.

Singleton class - Create only one instance for a class.

Persistent class

Exception class

21. Static and instance(methods & Attributes).

Static method & Attr :
> Object is not needed/mandatory to call static method and attr. It can be called by class itself.
> Static method can only access the static attr not instance attr.
> Shared among all the Classes and Objects.

Instance method and Attr
> Obj needs to be created to call Instance method and attr.
> Instance methods access both static attr and instance attr.
> Each obj has its own copy of instance Attr.

22. What are the different Visibility section / access level in class.

Public - Can be accessed outside the class,in subclass and inside the class.

Private - Can be accessed inside the class only.

Protected - Can be accessed in subclass and inside the class only

23. What are Constructors and its types.

Constructor -> Special type of method Automatically executed when obj is created. It is used to initialize values of variables.

Eg : Bank account opening process -> Asks for Name, Age etc even before creating the Account.

Instance Constructor - Parameter can be passed.

Declared using CONSTRUCTOR.

Called every time when an Obj is created.

Static Constructor - Parameter can't be passed.

Declared using CLASS_CONSTRUCTOR.

Execute only once even if multiple objects are created.

24. Inheritance advantages and disadvantages.

Inheritance - Inherit the properties of base class into subclass.

Advantage :

Reusability - without rewriting the same logic in subclass

Can add some additional functionality without overwrite the base class logic.

Support polymorphism.

Disadvantage:

Inherited methods from parent class may not be used in subclass - leads to memory wastage.

Base class changes may affect the child class which leads to error.

25. What is the interface?

Interface is a kind of structure where attributes and methods definition/declaration is done but the implementation of methods/attr will be done only by a class.

26. Abstract class and methods.

Abstract class is the type of class where it should contain at least 1 abstract method.

Abstract methods can only be defined in abstract class, but implementation happens only in child class of abstract class.

27 .Difference b/w interface and abstract class.

28 . What are events in SAP OOABAP?

Events - mechanism where one class triggers the events if some condition met & another class handle the event using a method. Allows communication b/w objects.

For eg : Car class has an event ‘speed_limit’. This event trigger when speed cross > 100km/h. If this condition is met , another class listens and responds to it by giving a warning message.

29 . What is the role of the ME and SUPER keywords in OOABAP?

ME keyword - Used to call the method and access the attr inside any method of the current class. It works inside the method of the same class/current class.

Super keyword - Used to access the method and attribute of the parent class inside the child class method.

30. ALV in OOABAP(study).

CDS View

CDS View :

1.What is the CDS View?

A CDS View (Core Data Services View) is an advanced view which fetches data from the SAP HANA database and processes data directly in the DB layer. It is a advanced DB view with extra features like:

- Runs the logic in the HANA database, reducing load on the SAP application server.
- Combines multiple tables and performs calculations/manipulations inside the view .
- Can be used/consumed by reports , ABAP prog ,Fiori apps, OData services, non-sap application

2.What are the different types of CDS view, and the difference between them.

ABAP CDS View :

It is DB independent.

Works on HANA DB as well as in other DB.

It is a part of DDIC means created and maintained in SE11.

Use OPEN SQL for manipulation.

Focus→Create view in ABAP Applications

Supports ABAP application

HANA CDS View :

It is DB dependent.

Works only in HANA DB.

Not a part of DDIC.

Uses Native SQL.

Focus →create models directly in DB.

Supports HANA application

3.Difference b/w classical view and CDS view.

CDS View	**Classical View**
Definition	
View with data manipulation	View without data manipulations
Run/Logic processings in the DB layer.	Run/Logic processings in the application layer
Supports joins, aggregations ,association and annotation.	Limited to basic joins such as inner join
Can be consumed by some other applications such as FIORI apps , ODATA services	Not used by any other 3rd party services.
Created in 3P environment like Eclipse or Hana studio	Created in SAP DDIC(SE11)
Nested view	Not supported nested view.
Input parameter is allowed	Not allowed

3. Provide the syntax of CDS View.

CDS view is defined using SQL syntax/statement and with some metadata annotations.

Syntax: @annot…

```
Define VIEW cds_view as

Select from table

{

    Field1

    Field2
```

…

}

4.Can a CDS view call another CDS view? If so, how?

Yes, we can use the already defined CDS when defining or creating the new CDS view.

5.How do you pass parameters from one CDS view to another?

You can pass parameters from one CDS view to another using the **`WITH PARAMETERS`** keyword. The parameters of the calling view are mapped to the parameters of the called view.

6.How do we display CDS View in ALV format?

Using the class **'cl_salv_gui_table_ida'** and **'CL_SALV_TABLE'**.

Using the Function module **'REUSE_ALV_GRID_DISPLAY'**.

6.A. Why do we have 2 methods to display CDS in ALV ? What IS the difference between them ?

7.What is the session variable?

Globally predefined variables used in CDS View to access session specific info/details like user details, time and be used in the CDS View.

Equivalent to the system field in ABAP.

8.What is Association in CDS?

It is a kind of Joins which fetch and combine data from multiple tables on Join Conditions but these are called as 'JOINS ON-DEMAND' i.e they will fetch the data only if the user explicitly requested it in the select statement.

9. *How many types of Association in CDS View?*

10. What is Adhoc Association?

Type of association where we include the fields from the association entity in the CDS view list.

Join is built directly for the association into the SQL view when ad-hoc associations are used.

11.What Exposed Association?

Explicitly defined the association name in the field list of a CDS View to make visible to the user.

12. What is Cardinality ?

Used to define relationship b/w entities specifically it defines how many records in one table can relate to records in another table.

13. What is the suggested naming convention to start with for Association?

Naming convention can start with _(underscore) for the association to avoid confusion between normal table and associated table.

14.

15.What is the table function?

Table Functions are used when you need to perform complex calculations or operations that are not possible using standard CDS views alone.

16.How to consume table function in the CDS view?

17.What is the Virtual data model in the CDS view?

18

MPP

MPP:

30 . What is Module Pool Programming (MPP) in SAP ABAP?

MPP - It is a special kind of programming where we can create custom SAP screens for the user interaction.

31.How is MPP different from Report Programming?

- MPP prog is not executed independently; we need to create tcode to execute it.

  Report prog can be executed independently.

- MPP -> uses different events such as PAI, PBO.

  Report prog -> uses different events such as start of selection , initialization so on.

- MPP -> user interaction , multiple screens.

  Report prog -> Mostly output based.

32.What are the main events in MPP?

PBO(process before Output) : triggers before screen is displayed.

PAI(process after input) : triggers after the user action on the screen.

POV(process on value request) : triggers on F4 keys -

POH(process on help request) : Handles the func.keys like F1 help and so on.

33.What is the purpose of PBO (Process Before Output) and PAI (Process After Input)?

PBO (Process Before Output): Prepares data before displaying the screen. Example: Setting default values.

PAI (Process After Input): Processes user input after they interact with the screen. Example: Validating entries.

34. How can you navigate between different screens in MPP?

1. SET SCREEN ‘Screen_no’. → Moves to screen 100 but no return to the prev.screen..
2. CALL SCREEN ‘Screen_no’. → Calls screen 200 and returns after exit.
3. LEAVE TO SCREEN 0. → Return to the previous screen.

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Workflow

1. What is SAP Workflow? Why is it used?

SAP Workflow is a tool used to automate business processes/activity like approval req and so on. It helps route tasks, information, and documents between people according to business rules.

2. What are the key components of a workflow?

- Workflow Template
- Steps (Activities, Conditions, Events, etc.)
- Workflow Container
- Tasks
- Events and Event Linkages
- Business Object

3. What is the difference between a task and a workflow?

- A **workflow** is a sequence of steps to complete a business process.
- A **task** is an individual unit of work/activity within the workflow.

4. What is an event in workflow?

An event is a trigger that starts a workflow. It is generally associated with a business object (e.g., Sales Order Created).

5. How do you trigger a workflow?

You can trigger a workflow using:

- Business Object Events
- Function Module `SWE_EVENT_CREATE`
- ~~Change Documents~~
- ~~Report programs (custom triggers)~~

6. What is a workflow container?

It is a data storage area used to pass and store values during the workflow execution. Each workflow, task, and event has its own container.

7. What is binding in SAP Workflow?

Binding is the process of transferring data between containers (e.g., from event container to workflow container).

8. What is the difference between a step and a step type?

- **Step Type** defines the kind of action (e.g., Activity, Condition, Fork).
- **Step** is an actual instance of the step type in your workflow/defines the what action to be performed in the WF.

9. What are the types of workflow steps?

- Activity (Task)
- User Decision
- Condition
- Fork
- Loop

- Event Wait
- Process Control

10. What is a subworkflow?
A subworkflow is a separate workflow template that is called as a step in a parent workflow.

11. How do you implement deadline monitoring?
In the step properties (usually an Activity), go to the "Deadline" tab and set requested/required time and escalation actions.

12. How do you handle stuck work items?
Use T-code `SWIA` to view and manually forward, restart, or cancel work items.

13. What is SWE_EVENT_CREATE?
It is a function module used to raise events programmatically.

14. What is a workflow log?
A detailed record of workflow execution. Use T-code `SWI1` or `SWIA` to view it.

15. What are process control steps?
They are used to control workflow execution forcefully such as canceling, skipping, or repeating steps.

16. How do you link an event to a workflow?
Use T-code `SWETYPV` to link a business object event to a workflow template.

17. What T-code is used to create or edit workflows?
Use T-code `SWDD` (Workflow Builder).

18. What T-code is used to manage tasks?
Use T-code `PFTC`.

19. How do you create a custom business object?
Use T-code `SWO1` to create and maintain business objects.

20. How do you debug a workflow?
Set breakpoints in the method, simulate the event, and use `SWI1` to analyze the log. You can also use transaction `SWUD` for testing.