

1) What
are
classes
and
objects in
in OOP?

In

■■■■, a

class

is

a

template

that defines

the

Structure

and

the

It outlines

behaviour

attributes (data members) and

methods (functions) that

the

object

will have.

blueprint for example, a 'car'

of

an

object.

It

acts

like

a

class

may

be

define properties

like 'brand' and

'Speed'

and

behaviours

Like

'drive'.

An

Object is an

individual

instance of

a

class, holding

Specific

values for

the class's

attributes
and
using its
methods.

2) What

is

inheritance?

Inheritance

is an essential



feature that

lets a

class

inherit

attributes

and

methods

from

another

class, enabling

Code

reuse

and

Creating a

relationship between classes. It models.

real-world

hierarchies, like 'Vehicle'

being

a

Superclass

and

'Car'

being

a Subclass.

Types of

inheritance:

Single Inheritance: Child inherits from one parent class.

Multilevel Inheritance: A class inherits from a derived class. Hierarchical

Inheritance: Multiple classes

inherit

from

One

parent.

Multiple Inheritance: Java

Supports this through

interfaces.

What

is

encapsulation?

Encapsulation

is

the practice
of bundling
data (variables) and
Single unit (class)
behaviour (methods)
into a
While
restricting direct access
to
the
data. It
is
achieved

using
access

Specifiers:

Private: Data is
accessible
only within
the
class.

Public: Data
accessible
from anywhere

Protected: Data
is
accessible
within
the
class
and Subclass.

Default (Package-private): Data
is
accessible within
the

Same package.4) What
is
abstraction?

Abstraction
focusing
Simplifies
Complex
Systems

by
on
what
an
object
does
instead
of

how
it
does
it. It
hides
internal
details
and
exposes
only
relevant
functionalities. This
Can
be
achieved
in
two
ways:
Abstract
Classes: Defined
with
the
abstract
Keyword, they
Can
have
both
abstract (no
implementation) and Concrete Cimplemented) methods.
Interfaces: Define a
Contract
of
methods that
a
class
must implement.

5) What are
access
modifiers
in Java OOP ?

Access
modifiers
in
Java
define
the visibility
of
and
main types
are
Variables, methods,

public, private, protected, and
default (Package - private).
classes. The four