SECTION B: Coding Question (8 Marks)

Write Java code for a class **Stenty** with the following state and behaviour:

- It cannot be subclassed, but it is a subclass of **Barrell** which is a subtype of **Gadistic**.
- It has an integer class variable called **derinal** that cannot be accessed outside the class and it is initialised to 10.
- It has an integer instance variable called **accons** that cannot be accessed outside the class.
- It overrides the no-argument constructor with one that sets the value of **accons** to the current value of **derinal** and then increments **derinal** by 5.
- It refines the method **advacal( )** inherited from **Barrell** where the message "Selected" is printed if **accons** is even, otherwise the parent method **advacal( )** is invoked which prints "Rejected".

All methods return void unless stated otherwise.

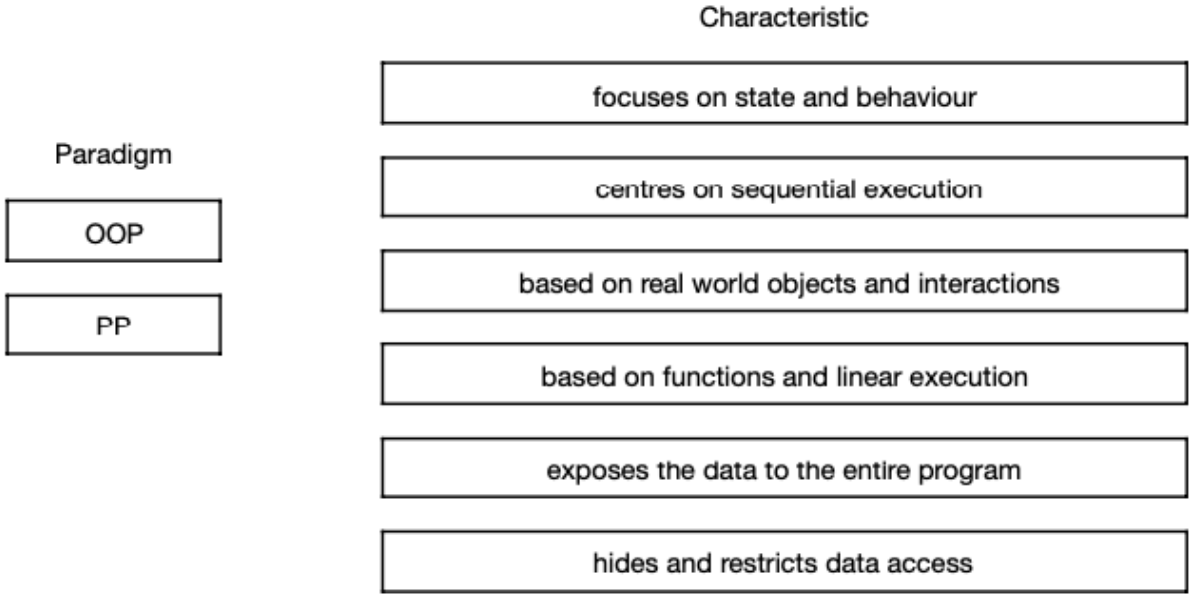
SECTION C: Short Answer Questions (9 Marks)

1. Based on the classes (**Stenty**, **Barrell**) and interface (**Gadistic**) in Section B:
   (a) Write code to create two valid polymorphic objects, **s1** and **s2** that instantiate these classes but have different static and dynamic types compared to each other.
   (b) Invoke the **advacal( )** method on the objects **s1** and **s2** .
   (c) Assuming that the **Gadistic** interface declares the **advacal( )** method, explain briefly why the calls in (b) work for **s1** and **s2** .
   (d) State the output that is printed in (b) for **s1** and **s2**.

[6 marks]

2. Match the characteristics with the correct paradigm : object-oriented programming (OOP) or procedural programming (PP). You may draw lines on the diagram below.

[3 marks]



END OF EXAMINATION