1. What is the difference between Continuous and procedural assignment

Continuous assignments are used to describe how signals are connected in a circuit, representing combinational logic. These assignments are made outside procedural blocks like always or initial.

Continuous assignments use the assign keyword followed by the assignment expression. The assignment is continuous and concurrent, meaning it continuously evaluates the expression and updates the signal whenever any of its inputs change.

2. What is the difference between blocking and non-blocking statement?

Blocking statements are executed and assigned values sequentially, whereas in non-blocking assignment happens at the end of the always block.

3. Why blocking statement is preferred for combinational logic design compared to non

blocking statement, what happens when it is used for defining sequential logic. Justify

your answer with an example and timing diagram.

Non-blocking is to be used in a sequential circuit to prevent race conditions and conflicts where a variable is being assigned a value that is undefined at the current clock cycle. Combinational logic is not dependent on clock and operations need o happen sequentially hence blocking statements are essential.

4. Blocking statement executes concurrently or sequentially ?

Blocking statements execute sequentially within a block.

5. Always blocks can be nested inside a single module (T/F).

False

6. LHS of procedural assignment statement can be of type wire. (T/F)

False, has to be reg.

7. Procedural and continuous assignment statement can coexist in a single module (T/F).

True

8. What value is inferred when multiple procedural assignments made to the same reg

variable in an always block?

X is inferred

10.What are the differences between if-else and the (“?:”) conditional operator?

If else gives a priority logic whereas case is parallel.

11.What is the importance of a default clause in a case construct? Justify your

answer with an example.

Default is to ensure that it doesn’t result in ambiguity when no conditions are matched. And to avoid D latch inference.

12.Explain the differences and advantages of casex and casez over the case statement?

Case x and casez also take into account x and z values.