Preparation for DLD Viva:

Q.1 Define gates ?
Ans. Gates are the digital circuits, which perform a specific type of logical operation.
Q.2 Define IC?
Ans. IC means integrated circuit. It is the integration of no. of components on a common substrate.
Q.3 Give example of Demorgan's theorem. Ans. (AB)'=A'+B'
(A+B)'=A'.B'
Q.4 (A+A) A =?
Ans. A.
Q5 Define Universal gates.
Ans. Universal gates are those gates by using which we can design any type of logical expression.
Q6.Write the logical equation for AND gate. Ans. Y=A.B
Q7 How many no. of input variables can a NOT Gate have? Ans. One.
Q8.Under what conditions the output of a two input AND gate is one? Ans. Both the inputs are one.
Q9.1+0
=? Ans. 1
Q10.When will the output of a NAND Gate be 0? Ans. When all the inputs are 1.

Q.1 Define K-map ?
Ans. It is a method of simplifying Boolean Functions in a systematic mathematical way.
Q.2 Define SOP ?
Ans. Sum of Product.
Q.3 Define POS ?
Ans. Product of Sum.
Q.4 What are combinational circuits?
Ans. These are those circuits whose output depends upon the inputs present at that instant of time.
Q.5 What are sequential circuits?
Ans. These are those circuits whose output depends upon the input present at that time as well as the previous output.

Q.6 If there are four variables how many cells the K-map will have? Ans. 16.
Q.7 When two min-terms can be adjacent? Ans. 2 to the power n.
Q.8 Which code is used for the identification of cells? Ans8. Gray Code.
Q.9 Define Byte?
Ans. Byte is a combination of 8 bits.
Q.10 When simplified with Boolean Algebra $(x + y)(x + z)$ simplifies to Ans. $x + yz$

Quiz Questions with answer.
Q 1.Flip flop is Astable or Bistable? Ans. Bistable.
Q2.What are the I/Ps of JK flip–flop where this race round condition occurs? Ans. Both the inputs are 1.
Q3.When RS flip-flop is said to be in a SET state? Ans. When the output is 1.
Q4.When RS flip-flop is said to be in a RESET state? Ans. When the output is 0.
Q5.What is the truth table of JK flip-flop?

J	K	Q_{n+1}
0	0	Qn
0	1	0
1	0	1
1	1	Qn, ’

Q6.What is the function of clock signal in flipflop? Ans. To get the output at known time.
Q7.What is the advantage of JK flip-flop over RS flip-flop?
Ans. In RS flip-flop when both the inputs are 1 output is undetermined. Q8.In D flip-flop I/P = 0 what is O/P?
Ans.0
Q9.In D flip-flop I/P = 1 what is

O/P? Ans.1
Q10.In T flip-flop I/P = 1 what is
O/P? Ans. Qn

Quiz Questions with answer.

Q. 1 What do you understand by decoder?
Ans. A decoder is a combinational circuit that converts binary information from n input lines to a maximum of 2n unique output lines. Most IC decoders include one or more enable inputs to control the circuit operation.
Q. 2 What is demultiplexer?
Ans. The demultiplexer is the inverse of the multiplexer, in that it takes a single data input and `n` address inputs. It has `2n` outputs. The address input determine which data output is going to have the same value as the data input. The other data outputs will have the value 0.
Q. 3 What do you understand by encoder?
Ans. An encoder or multiplexer is therefore a digital IC that outputs a digital code based on which of its several digital inputs is enabled.
Q. 4 What is the main difference between decoder and demultiplexer?
Ans. In decoder we have n input lines as in demultiplexer we have n select lines. Q. 5 Why Binary is different from Gray code?
Ans. Gray code has a unique property that any two adjacent gray codes differ by only a single bit.
Q. 6 Write down the method of Binary to Gray conversion. Ans. Using the Ex-Or gates.
Q. 7 Convert 0101 to Decimal**.**
Ans. 5
Q. 8 Write the full form of ASCII Codes?
Ans. American Standard Code for Information Interchange.
Q.9. If a register containing 0.110011 is logically added to register containing 0.101010 what would be the result?
Ans.111011
Q10.Binary code is a weighted code or not? Ans. Yes

Quiz Questions with answer.
Q.1 Why is MUX called as “Data Selector”?
Ans. This selects one out of many inputs. Q.2

What do you mean by Multiplexing?
Ans. Multiplexing means selecting only a single input out of many inputs. Q.3 What is Digital Multiplexer?
Ans. The multiplexer which acts on digital data.
Q.4 What is the function of Enable input to any IC? Ans. When this enable signal is activated.
Q.5 What is demultiplexer?
Ans. A demultiplexer transmits the data from a single source to various sources. Q.6 Can a decoder function as a D'MUX?
Ans. Yes
Q.7 What is the role of select lines in a Demultiplexer?
Ans. Select line selects the output line.
Q.8 Differentiate between functions of MUX & D'MUX?
Ans. Multiplexer has only single output but demultiplexer has many outputs. Q.9 The number of control lines required for a 1:8 demultiplexer will be Ans. 3
Q.10 How many 4:1 multiplexers will be required to design 8:1 multiplexer? Ans. 2

Quiz Questions with answer.
Q 1 What do you understand by parallel adder?
Ans. If we place full adders in parallel, we can add two- or four-digit numbers or any other size desired i.e. known as parallel adder.
Q2 What happens when an N-bit adder adds two numbers whose sum is greater than or equal to 2^N
Ans. Overflow.
Q3 Is Excess-3 code is weighted code or not? Ans. Excess-3 is not a weighted code.
Q4 What is IC no. of parallel adder? Ans. IC 7483.
Q5 What is the difference between Excess-3 & Natural BCD code?
Ans. Natural BCD code is weighted code but Excess-3 code is not weighted code. Q6. What is the Excess-3 code for $(396)_{10}$
Ans. $(396)_{10} = (011011001001)_{EX-3}$
Q7 Can we obtain 1's complement using parallel adder? Ans. Yes
Q8 Can we obtain 2's complement using parallel adder? Ans. yes
Q9 How many bits can be added using IC7483 parallel adder? Ans. 4 bits.

Q10 Can you obtain subtractor using parallel adder? Ans. Yes