INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

ELECTRONICS AND COMMUNICATION ENGINEERING

DEFINITIONS AND TERMINOLOGY

Course Name	:	**PULSE AND DIGITAL CIRCUITS**
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OBJECTIVES

I	To help students to consider in depth the terminology and nomenclature used in the syllabus.
II	To focus on the meaning of new words / terminology/nomenclature

DEFINITIONS AND TERMINOLOGYQUESTION BANK

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
UNIT - I					
1	What is shunt clipper?	It uses a diode in conjunction with a resistor, the diode forms a parallel path across the output.	Remember	CLO 2	AEC006.02
2	Define positive clamping.	The average value of output voltage is adjusted under positive peak is called as positive clamping.	Understand	CLO 3	AEC006.03
3	Define transient response.	A transient response is the response of a system to a change from equilibrium or a steady state.	Understand	CLO 1	AEC006.01
4	Define Steady state response.	A steady-state response is the behavior of a circuit after a long time when steady conditions have been reached after an external excitation.	Understand	CLO 1	AEC006.01
5	Define positive peak clamper.	The average value of output voltage is adjusted under negative peak is called as positive clamping.	Understand	CLO 3	AEC006.03
6	Define natural response.	Natural response is the system's response to initial conditions with all external forces set to zero.	Understand	CLO 1	AEC006.01
7	Define voltage limiter.	It limit the amplitude of output voltage either positive or negative peaks.	Understand	CLO 3	AEC006.03
8	Define Squaring circuit.	A circuit consists two diodes in parallel can be used for converting sine wave to square wave.	Understand	CLO 2	AEC006.02
9	Define pulse width.	The time duration of the output pulse measured between two 50% levels of rising and falling waveform is defined as Pulse Width.	Understand	CLO 1	AEC006.01
10	Define turn on time of transistor.	It is the sum of time delay (t_d) and rise time (t_r) is called as turn-on time.	Understand	CLO 2	AEC006.02
11	What is electrical network?	An electrical network is an interconnection of active and passive elements.	Remember	CLO 1	AEC006.01
12	Define positive peak clipper.	A circuit limits the amplitude of positive peak output signal is called as positive peak clipper.	Understand	CLO 2	AEC006.02
13	Define negative clamping.	The average value of output voltage is adjusted under negative peak is called as positive clamping.	Understand	CLO 3	AEC006.03
14	Define transmission error.	When a ramp voltage is transmitted through a high-pass RC network, there is a difference of one time-constant between the input and output.	Understand	CLO 1	AEC006.01
15	Define ringing circuit.	It gives nearly undamped oscillations for a given step input voltage is called as ringing circuit.	Understand	CLO 1	AEC006.01

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
16	Define p-n junction diode.	In a semiconductor is half is doped with p type and another half is doped with n type material is called as p-n junction diode.	Understand	CLO 2	AEC006.02
17	Define transistor.	A transistor is a basic electrical component that alters the flow of electrical current.	Understand	CLO 2	AEC006.02
18	Define damping ratio.	It is the ratio of actual resistance in the circuit to the critical resistance.	Understand	CLO 1	AEC006.01
19	Define forward bias of diode.	If p type material is connected to positive source & n type material is negative source is called as forward bias of diode.	Understand	CLO 2	AEC006.02
20	Define slicer.	An electronic circuit limits the amplitude of output voltage at both the peaks is called as slicer.	Understand	CLO 3	AEC006.03
21	Define circuit.	A circuit is a path between two or more points along which an electrical current can be carried.	Understand	CLO 1	AEC006.01
22	Define wave shaping	The process of altering the signal transmitting through an electronic network is called as wave shaping.	Understand	CLO 1	AEC006.01
23	What is RC Integrator?	The output of the RC circuit is proportional to the time integral of the input.	Remember	CLO 1	AEC006.01
24	What is Non linear wave shaping ?	The process by which sinusoidal signal is altered by transmitting the signal through a non linear network is called Non linear wave shaping.	Understand	CLO 2	AEC006.02
25	Define Clamper.	It changes the DC level of a signal to the desired level without changing the shape of the applied signal	Understand	CLO 3	AEC006.03
26	Define positive peak limiter.	The average value of output voltage is adjusted under negative peak is called positive peak limiter.	Understand	CLO 3	AEC006.03
27	Define %tilt of RC circuit.	The decay in the amplitude of the output voltage wave due to the input voltage maintaining a constant level.	Understand	CLO 1	AEC006.01
28	Define Storage time.	It is the time when the output waveform becomes constant or reaches the steady state.	Understand	CLO 1	AEC006.01
29	Define Fall time.	The time pulse takes to decreases from 90% to 10% of its normal amplitude is called fall time.	Understand	CLO 1	AEC006.01
30	What series clipper?	A Clipper circuit in which the diode is connected in series to the input signal.	Remember	CLO 2	AEC006.02
31	Define linear network.	A network comprising of linear elements is called linear network.	Understand	CLO 1	AEC006.01

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
32	Define linear wave shaping.	A nonsinusoidal signal is transmitted through a linear network, the wave form of the output voltage bears no resemblance to the wave form of the input signal.	Understand	CLO 1	AEC006.01
33	Define time constant of RC circuit.	Time constant of the RC circuit is the time required for the output voltage across the capacitor to attain 63.2% of the final steady value.	Understand	CLO 1	AEC006.01
34	What is cut-off frequency?	The cut-off frequency is the frequency at which the gain is 0.707 of its maximum gain.	Remember	CLO 1	AEC006.01
35	What is RC Differentiator?	RC Differentiator is a circuit the output is proportional to the time derivative of the input.	Remember	CLO 1	AEC006.01
36	Define clipper.	A clipper is a device which limits, remove or prevents some portion of the wave form above or below a certain level.	Understand	CLO 2	AEC006.02
37	Define rise time.	It is the time required for the voltage to rise from 10% to 90% of the steady state value is termed as rise time.	Understand	CLO 1	AEC006.01
38	Define DC restorer.	A clamping circuit restores or reinserts the lost of DC component is called as DC restorer.	Understand	CLO 3	AEC006.03
39	Define clamping circuit theorem.	It states that for any input wave form under steady state conditions, the ratio of the area A_f under the output voltage curve in the forward direction to that area under in the reverse direction A_r is equal to the ratio R_f and R_r .	Understand	CLO 3	AEC006.03
40	What is High Pass RC?	A high-pass RC is an electronic circuit that passes signals with a frequency higher than cutoff region and attenuates signals with frequencies lower than the cutoff region.	Remember	CLO 1	AEC006.01
UNIT – II					
1	What is the self biased Multivibrator?	The emitter resistance provides the necessary bias to the transistor to make ON or OFF.	Remember	CLO 4	AEC006.04
2	What is Fixed bias binary?	The circuit uses fixed bias voltage to make the transistor ON or OFF.	Remember	CLO 4	AEC006.04
3	Define transistor.	It transfers the low resistance device to the high resistance device.	Understand	CLO 4	AEC006.04
4	Define bistable circuit.	A circuit consists of two stable states.	Understand	CLO 4	AEC006.04
5	Define DC coupling.	DC coupling means resistive coupling and DC coupling allows both AC and DC signals.	Understand	CLO 4	AEC006.04
6	What is AC coupling?	AC coupling means capacitive coupling for multivibrators.	Remember	CLO 4	AEC006.04

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
7	Define loop gain.	The loop gain is the gain associated with the path making that loop when a signal is transmitted through it.	Understand	CLO 5	AEC006.05
8	What is output swing?	The output swing means the change in collector voltage resulting from a transition from one state to other.	Understand	CLO 6	AEC006.06
9	What is active region?	Active region is one in which Base emitter junction is forward biased and Base Collector junction will be reverse biased in a transistor	Remember	CLO 4	AEC006.04
10	Define open circuit.	An electrical circuit in which the continuity is broken so that current does not flow.	Understand	CLO 4	AEC006.04
11	Define monostable multivibrator.	When a trigger pulse is applied to the input circuit, the circuit state is changed abruptly to unstable state for a predetermined time after which the circuit returned to its original stable state automatically.	Understand	CLO 6	AEC006.06
12	Define Astable multivibrator.	Astable multivibrator is a multivibrator in which neither state is stable. There are two temporary states.	Understand	CLO 6	AEC006.06
13	Define resolving time.	It is the minimum time interval between two consecutive trigger pulses and equals to transition time plus the settling time.	Understand	CLO 4	AEC006.04
14	What is Schmitt trigger?	In a circuit which converts sine wave into a square wave.	Remember	CLO 5	AEC006.05
15	What is resolution time?	Resolution time means the sum of the transition time and settling time.	Remember	CLO 4	AEC006.04
16	What is meant by unsymmetrical triggering?	If two signals from two separate trigger source are used, one signal to cause the change in one direction. i.e. from ON to OFF and the other signal cause change from OFF to ON.	Remember	CLO 5	AEC006.05
17	What is delay time?	The time required for the current to rise to 10% of its maximum steady state value.	Remember	CLO 6	AEC006.06
18	Define Upper trigger point (UTP).	UTP is the point at which the transistor enters into conduction. i.e. OFF to ON state.	Understand	CLO 5	AEC006.05
19	Define Lower trigger point (LTP).	LTP is the point at which the transistor enters from ON to OFF state.	Understand	CLO 5	AEC006.05
20	Define hysteresis.	The input voltage difference between UTP and LTP is known as hysteresis.	Remember	CLO 5	AEC006.05
21	What is cut off region?	In this region both junctions of the transistor are reverse biased.	Remember	CLO 4	AEC006.04
22	Define regenerative circuit.	A regenerative circuit is an amplifier and it uses positive feedback.	Understand	CLO 5	AEC006.05

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
23	Define short circuit.	A connection of comparatively low resistance accidentally or intentionally made between points on a circuit between which the resistance is normally much greater.	Understand	CLO 4	AEC006.04
24	Define voltage.	It is a quantitative expression of the potential difference in charge between two points in an electrical field.	Understand	CLO 4	AEC006.04
25	What is saturation region?	In a transistor, both emitter base and collector base junctions are forward biased.	Remember	CLO 4	AEC006.04
26	Define loading of a binary.	Connecting external resistor at the collectors of the binary and drawing currents from them is called loading the binary.	Understand	CLO 4	AEC006.04
27	What is commutating capacitor?	It can be used to reduce the transition time in a low to high level and vice versa.	Remember	CLO 4	AEC006.04
28	Define coupling in electronics.	Coupling is the desirable or undesirable transfer of energy from one medium to another medium.	Understand	CLO 4	AEC006.04
29	Define unilateral circuit.	In unilateral circuits, the property of circuit changes with the change of direction of supply voltage or current.	Understand	CLO 5	AEC006.05
30	Define one shot.	When triggering is applied, the device returns to its original state after a time T.	Understand	CLO 6	AEC006.06
31	What is multivibrator?	Multivibrators are basically regenerative circuits comprising two cross coupled devices like BJTs.	Remember	CLO 4	AEC006.04
32	Define stable state.	It is the state in which the device can stay permanently and only when a proper external triggering signal is applied, it will change its state.	Understand	CLO 4	AEC006.04
33	Define quasi-stable state.	It is a temporarily stable state. The device will automatically come out of quasi stable state after a pre defined time period.	Understand	CLO 4	AEC006.04
34	What is Bistable Multivibrator?	It can remain indefinitely in any one of the two stable states.	Remember	CLO 4	AEC006.04
35	Define transition time.	The time interval during which the conduction transfer from one transistor to another transistor is defined as transition time.	Understand	CLO 4	AEC006.04
36	Define Settling time.	It is defined as the time required for recharging of commutating capacitors after transfer of conduction.	Understand	CLO 4	AEC006.04
37	Define Symmetrical triggering.	A single source, triggering can be effected in both directions is called as symmetrical triggering.	Understand	CLO 4	AEC006.04
38	Define hysteresis voltage.	The voltage difference between UTP and LTP, represented by the loop width is called as hysteresis voltage.	Understand	CLO 5	AEC006.05

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
39	Define triggering.	It is the process of changing the state of multivibrator by applying an external pulse is termed as triggering.	Understand	CLO 4	AEC006.04
40	Define biasing.	Biasing is the process of application of external voltage in order to operate the device in a desired way.	Remember	CLO 4	AEC006.04
UNIT – III					
1	Define exponential charging.	In this method a capacitor is charged from a supply voltage through a resistor to a maximum voltage which is quite small compared with the supply voltage	Understand	CLO 8	AEC006.08
2	Define miller circuit.	In this method an operational integrator is used to convert an input step voltage into a ramp waveform.	Understand	CLO 8	AEC006.08
3	Define bootstrap circuit.	In this method a capacitor is charged linearly by a constant current which is obtained by maintaining a constant voltage across a fixed resistor in series with the capacitor.	Understand	CLO 8	AEC006.08
4	Define constant current charging.	In this method a capacitor is charged linearly from a constant current source. Since the charging current is constant the voltage across the capacitor increases linearly.	Understand	CLO 8	AEC006.08
5	What is blocking oscillator?	It produces a single or train of narrow pulses using transistor and pulse transformer.	Remember	CLO 8	AEC006.08
6	Define slope error.	It is the ratio of difference in slope at beginning and end of sweep to the initial value of slope.	Understand	CLO 8	AEC006.08
7	Define flyback time.	The time required to return for the sweep voltage to the initial value is called the flyback time.	Understand	CLO 8	AEC006.08
8	Define negative pedestal.	Difference between the outputs is negative under non transmission period and transmission period at input is zero.	Understand	CLO 9	AEC006.09
9	Define hold off time.	The time is required to stabilize the flyback circuitry in time a base generator is called as hold off time.	Understand	CLO 8	AEC006.08
10	Define peak voltage in UJT.	The voltage at which the UJT gets switched ON is the Peak Voltage.	Understand	CLO 9	AEC006.09
11	What is sweep generator?	A circuit produces sweep waveform is called as sweep generator. In this at least one portion respect to time.	Remember	CLO 8	AEC006.08
12	Define positive pedestal.	Difference between the outputs is positive under non transmission period and transmission period at input is zero.	Understand	CLO 7	AEC006.07
13	Define bootstrap sweep generator.	A circuit is used to generate ramp voltage is called as boot strap sweep generator.	Understand	CLO 8	AEC006.08

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
14	Define miller sweep generator.	A circuit is used to generate negative ramp voltage is called as miller sweep generator.	Understand	CLO 8	AEC006.08
15	What is constant current charging?	A capacitor charged from a constant current source, the voltage across the capacitor is ramp voltage.	Remember	CLO 8	AEC006.08
16	Define sweep.	progressive movement of an electron beam across the face of an electrostatic cathode ray tube is called as sweep	Understand	CLO 8	AEC006.08
17	Define Valley Voltage in UJT.	In an UJT, the output voltage decreases to a least voltage is called as Valley voltage.	Understand	CLO 8	AEC006.08
18	Define Exponential sweep circuit.	In linear RC network, the voltage across the capacitor at any instant of time is exponential nature is called as exponential seep circuit.	Understand	CLO 8	AEC006.08
19	Define intrinsic standoff ratio.	It is the ratio of the standoff voltage to the power supply voltage.	Understand	CLO 8	AEC006.08
20	Define linear gate.	A circuit which generates output is linear relation with input at given instant of time is called as linear gate.	Understand	CLO 8	AEC006.08
21	Define non transmission Period.	During a selected time interval the output is zero is called as non transmission period.	Understand	CLO 7	AEC006.07
22	Define unidirectional sampling gate.	If the input signal consists essentially of a uni directional pulse, the sampling gate is respond to a signal of only one polarity is called as unidirectional gate.	Understand	CLO 7	AEC006.07
23	Define control voltage.	Voltage required to keep both the diodes OFF when no sampling takes place.	Understand	CLO 7	AEC006.07
24	Define voltage time base generator.	circuit used to generate a linear variation of voltage with time are called voltage time base generator	Understand	CLO 8	AEC006.08
25	Define sweep speed error.	The ratio of difference in slope at beginning and end of sweep to initial value of slope.	Understand	CLO 8	AEC006.08
26	Define current time base generator.	A time base generator that provides an output current waveform that varies linearly with time is called as a Current Time base Generator.	Understand	CLO 8	AEC006.08
27	Define displacement error.	The maximum difference between the actual sweep voltage and the linear sweep which passes through the beginning and end points of the actual sweep.	Understand	CLO 8	AEC006.08
28	Define transmission error.	The difference between the input and the output divided by the input at the end of the sweep.	Understand	CLO 8	AEC006.08
29	Define linear time base generator.	It provides an output waveform, a portion of which exhibits a linear variation of voltage or current with time.	Understand	CLO 8	AEC006.08

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
30	Define sweep speed.	The rate of change of sweep voltage with respect to time is called as sweep speed.	Understand	CLO 8	AEC006.08
31	What is sampling gate?	It is a basically transmission circuit which allows an input signal to pass it during a selected interval and blocks its passage outside this time interval.	Remember	CLO 7	AEC006.07
32	What is gating signal?	The interval of time is selected by means of an externally applied signal termed as gating signal.	Remember	CLO 7	AEC006.07
33	Define transmission Period.	During a selected time interval the output must be equal to the input signal is called as transmission period.	Understand	CLO 7	AEC006.07
34	What is bidirectional sampling gate?	A sampling gate is required to handle the excursions of the signals of both polarities, it is termed as bidirectional gate.	Remember	CLO 7	AEC006.07
35	Define gain of sampling gate.	The gain of sampling gate is defined as the ratio of output voltage to the input voltage.	Understand	CLO 7	AEC006.07
36	Define pedestal of sampling gate.	Difference between the outputs when the output is under at non transmission period and output is under at transmission period at vs=0	Understand	CLO 7	AEC006.07
37	What is time base generator?	A time-base generator is an electronic circuit which generates an output voltage or current waveform, a portion of which varies linearly with time.	Remember	CLO 8	AEC006.08
38	What is sweep time?	the time during which the output increases linearly is called as Sweep Time (T_S)	Remember	CLO 8	AEC006.08
39	What is restoration time?	The time taken for the signal to get back to its initial value is called as Restoration Time.	Remember	CLO 8	AEC006.08
40	Define Relaxation Oscillator.	An oscillator that uses a regenerative feedback to generate a non sinusoidal output is called as Relaxation Oscillator.	Understand	CLO 8	AEC006.08
UNIT - IV					
1	Define Synchronization.	It the process of making two or more waveform generators arrives at some reference point in the cycle exactly at the same time.	Understand	CLO10	AEC006.10
2	Define Synchronization with frequency division.	If the generators operate at different frequencies which are integral multiples of each other but arrive at some reference point at the same time.	Understand	CLO10	AEC006.10
3	Define frequency divide by n.	Frequency Dividers are the circuits which divide the input frequency by n.	Understand	CLO 11	AEC006.11
4	Define free running oscillator.	A circuit which generates the oscillations without any input signal is called as free running oscillator.	Understand	CLO 10	AEC006.10

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
5	Define Sine wave synchronization with pulse synchronization?	Synchronization is the process of making two or more waveform generators arrive at some reference point in the cycle exactly at the same time for sine wave.	Understand	CLO12	AEC006.12
6	What is UJT relaxation oscillator?	A unijunction transistor in conjunction with a capacitor and charging resistor to construct an oscillator with an approximate ramp type output is known as UJT relaxation oscillator.	Remember	CLO 11	AEC006.11
7	What is Monostable Blocking Oscillator?	If the blocking oscillator needs a single pulse, to change its state, it is called as a Monostable blocking oscillator circuit.	Remember	CLO11	AEC006.11
8	What is Breakdown voltage?	The solid curve is the breakdown voltage in the presence of the synch signal	Remember	CLO 12	AEC006.12
9	What is Negative resistance device?	A negative resistance device exhibits a reverse relationship between voltage and current	Remember	CLO 12	AEC006.12
10	Define frequency divide by 2.	Frequency Dividers are the circuits which divide the input frequency by 2.	Understand	CLO 11	AEC006.11
11	Define phase delay.	The delay between the input pulse to a divider and the output pulse is called as phase delay.	Understand	CLO 12	AEC006.12
12	Define synchronization with one-to-one basis	If all the generators are operate at exactly the same frequency and arrive at some reference point in the cycle exactly at the same time.	Remember	CLO 10	AEC006.10
13	What is counting circuit?	When synchronization with frequency division is implemented in a pulse or digital system, the circuit can be called as a counting circuit	Understand	CLO 12	AEC006.12
14	Define relaxation circuit.	Relaxation circuits are the circuits in which the timing interval is established through the gradual charging of a capacitor, the timing interval being terminated by the sudden discharge (relaxation) of a capacitor.	Understand	CLO 11	AEC006.11
15	Define frequency divider.	Frequency Dividers are the circuits which divide the input frequency by n (any integer number).	Understand	CLO 11	AEC006.11
16	What is Astable Blocking Oscillator?	If the blocking oscillator can change its state automatically, it is called as an Astable blocking oscillator circuit.	Remember	CLO 11	AEC006.11
17	Define phase jitter.	The phase delay that varies due to the cumulative effect of the variations in the characteristics, supply voltages and noise in the circuit is termed as phase jitter.	Understand	CLO 12	AEC006.12
18	Define relaxation oscillator	An oscillator that uses a regenerative feedback to generate a nonsinusoidal output is called as Relaxation Oscillator.	Understand	CLO 11	AEC006.11
19	Define frequency.	Frequency is defined as the number of cycles per minute.	Understand	CLO 11	AEC006.11

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
20	What is Quiescent breakdown voltage?	The break down voltage of the negative resistance device in the absences of as synch signal	Remember	CLO 12	AEC006.12
UNIT - V					
1	Define fan in.	Fan-in is the number of inputs to the gate which it can handle.	Understand	CLO 14	AEC006.14
2	Define fan out.	Fan-out is the number of loads the output of a gate can drive without effecting its operation.	Understand	CLO 14	AEC006.14
3	Define power dissipation.	Power dissipation is the supply voltage required by the gate to operate with 50% duty cycle at a given frequency.	Understand	CLO 14	AEC006.14
4	Define noise immunity.	A circuit ability to tolerate noise is called as noise immunity.	Understand	CLO 14	AEC006.14
5	Define noise margin.	The noise margin is the maximum noise that can be added to the input signal of a digital circuit.	Understand	CLO 14	AEC006.14
6	What is negative edge triggering?	A circuit becomes active when its clock signal goes from high to low transition.	Remember	CLO 13	AEC006.13
7	Define logic level.	A logic level is one of a finite number of states that a digital signal can inhabit.	Understand	CLO 13	AEC006.13
8	What is positive logic system?	In this +5v is treated as logic 1 and 0v is treated as logic 0.	Remember	CLO 13	AEC006.13
9	What is negative logic system?	In this -5v is treated as logic 0 and 0v is treated as logic 1.	Remember	CLO 13	AEC006.13
10	What are Transistor Transistor Logic(TTL) levels?	For standard TTL, 0V to 0.8V is treated as logic 0 and 2V to 5V is treated as logic 1.	Remember	CLO 13	AEC006.13
11	Define speed power product.	The product of average propagation delay and the average power dissipation of logic gate.	Understand	CLO 14	AEC006.14
12	What is transmission gate?	Transmission gate is simply a digitally controlled CMOS switch.	Remember	CLO 13	AEC006.13
13	What is active pull-up?	A circuit with active devices used to pull up the output voltage of a logic circuit from LOW to HIGH in response to the appropriate inputs.	Remember	CLO 13	AEC006.13
14	What is passive pull-up?	A resistance used to pull-up the output voltage of a logic circuit from LOW to HIGH in response to appropriate inputs.	Remember	CLO 13	AEC006.13
15	Define noise-margin in high-level.	The difference between the minimum voltage that is produced at the output corresponding to logic 1 and the minimum voltage that is recognized as logic 1 of the input.	Understand	CLO 13	AEC006.13

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16	What is Large Scale Integration?	It contains components in between 500 and 300000.	Remember	CLO 13	AEC006.13
17	What is Very Large Scale Integration?	It contains more than 300000 components.	Remember	CLO 13	AEC006.13
18	Define truth table.	A truth table is a tabular representation of all the combinations of values for inputs and their corresponding outputs.	Understand	CLO 13	AEC006.13
19	Define triggering.	The process of applying an external signal to induce a transition from one state to the other is called triggering.	Understand	CLO 13	AEC006.13
20	Define positive edge triggering.	A circuit becomes active when its clock signal goes from low to high transition.	Understand	CLO 13	AEC006.13
21	Define logic family.	A logic family is a group of electronic logic gates constructed using compatible logic levels and power supply characteristics within a family.	Understand	CLO 13	AEC006.13
22	Define logic gate.	A logic gate is an assortment of electronically controlled switches that implement Boolean logic processes.	Understand	CLO 13	AEC006.13
23	What is Figure of merit?	The figure of merit of a digital IC is defined as the product of speed and power.	Remember	CLO 14	AEC006.14
24	Define threshold voltage.	The threshold voltage is defined as that voltage at the input of a gate which causes a change in the state of the output from one logic level to other.	Understand	CLO 14	AEC006.14
25	Define propagation delay.	It is the average transition delay time for a pulse to propagate from input to output of a switching circuit.	Understand	CLO 14	AEC006.14
26	What are ECL logic levels?	ECL logic levels are negative,-0.9V for logic 1 and -1.7V for logic 0	Remember	CLO 13	AEC006.13
27	Define standard load.	It is defined as the amount of current needed by an input of another gate of same logic family.	Understand	CLO 13	AEC006.13
28	Define level shifter.	It is specially designed ICs which are used to make devices from different logic families compatible with each other.	Understand	CLO 13	AEC006.13
29	Define universal gates.	Any Boolean function can be realized by an NAND and NOR gates are called as Universal gates.	Understand	CLO 15	AEC006.15
30	What are CMOS logic levels?	In this 0Vto 1.5V for a “low” logic state, and 3.5 V to 5 V for a “high” logic state.	Remember	CLO 13	AEC006.13
31	Define noise-margin in low-level.	The difference between the maximum voltage that is recognized as logic 0 at the input and the maximum voltage that is produced corresponding to logic 0 at the output.	Understand	CLO 13	AEC006.13

S No	QUESTION	ANSWER	Blooms Level	CLO	CLO Code
32	Define buffer.	A circuit or gate that can drive a substantially higher number of gates or other loads.	Understand	CLO 13	AEC006.13
33	What is Diode logic?	If a logic circuit design involves only diodes and resistors it is called as 'Diode Logic'.	Remember	CLO 13	AEC006.13
34	What is tri state logic?	It has three states high, low, high Impedance.	Remember	CLO 15	AEC006.15
35	Define Resistor Transistor Logic.	It is a class of digital circuits built using resistors as the input network and bipolar junction transistors as switching devices.	Understand	CLO 13	AEC006.13
36	Define Diode Transistor logic.	It is a class of digital circuits that is the direct ancestor of transistor–transistor logic.	Understand	CLO 13	AEC006.13
37	Define Transistor Transistor Logic.	It is a digital logic design in which bipolar transistor acts on direct-current pulses.	Understand	CLO 13	AEC006.13
38	What is Emitter-coupled logic.	It is a high-speed integrated circuit bipolar transistor logic family.	Understand	CLO 13	AEC006.13
39	Define Small Scale Integration.	It contains less than 100 components.	Understand	CLO 13	AEC006.13
40	Define Medium Scale Integration.	It contains less than 500 components.	Understand	CLO 13	AEC006.13

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