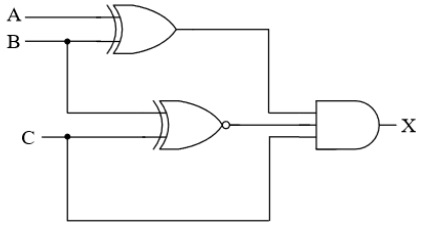
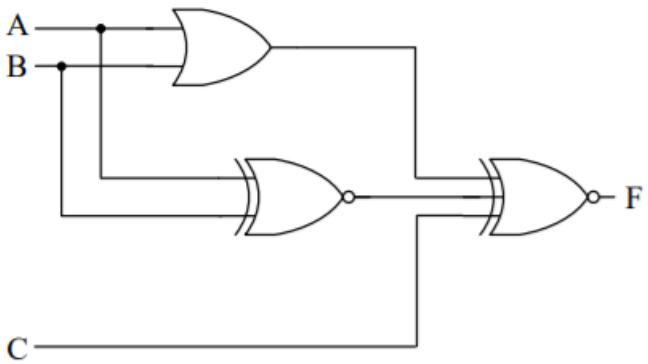
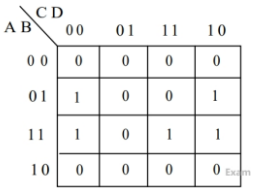
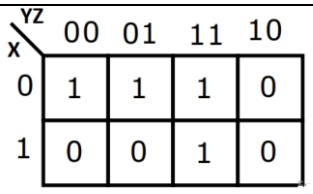
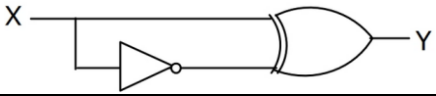
Sr.No.	Question (Each question carry 2 Marks)
1	The output of a logic gate is '1' when all its input are at logic 0.The gate is either
	(a) NAND or an EX OR gate (b) NOR or an EX-NOR gate (c) an OR or an EX NOR gate (d) an AND or an EX-OR gate
2	The Boolean function Y= AB + CD is to be realized using only 2 input NAND gates .The minimum number of gates required is
	(a) 2 (b) 3 (c) 4 (d) 5
3	The Boolean expression for the output of EX-NOR (equivalence) logic gate with inputs A and B is
	(a) $AB' + A'B$ (b) $A'B' + AB$ (c) $(A' + B')(A + B)$ (d) $(A' + B')(A + B)$
4	 For the logic circuit shown in the figure, the required input condition (A,B,C) to make the output X =1 is
	(a) 1, 0, 1 (b) 0, 0, 1 (c) 1, 1, 1 (d) 0, 1, 1
5	The minimum number of 2-input NAND gates required to implement the Boolean function $Z = AB'C$, assuming that A, B and C are available is (a) Two (b) Three (c) Five (d) Six
	(a) Two (b) Three (c) Five (d) Six
6	For the output F to be 1 is the logic circuit shown, the input combination should  be
	(a) $A = 1, B = 1, C = 1$ (b) $A = 1, B = 0, C = 0$

	(c) A = 0, B = 1, C = 0 (d) A = 0, B = 0, C = 1
7	For a binary half sub tractor having two inputs A and B, the correct set of logical expressions for the outputs D (= A minus B) and X (= borrow) are
	(a) $D = AB + A'B$, $X = A'B$ (b) $D = A'B + AB' + AB'$, $X = AB'$ (c) $D = A'B + AB'$,$X = A'B$ (d) $D = AB + A'B'$,$X = AB'$
8	What type of register would shift a complete binary number in one bit at a time and shift all the stored bits out one bit at a time?
	(a)PIPO (b) SISO (c) SIPO (d)PISO
9	The truth table for an S-R flip-flop has how many VALID entries?
	a) 1 b) 2 c) 3 d) 4
10	SR. latch made by cross coupling two NAND gates if S=R=0, Then it will result in
	a) Q=0,Q'=1 b) Q=1,Q'=1 c) Q=1,Q'=0 d) Intermediate state
11	The smallest integer that can be represented by an 8-bit number in 2's complement form is
	a) -256 b) -128 c) -127 d) 64
12	The decimal value 0.25 is equivalent to binary
	a) 0.1 b) 0.01 c) 0.0011 d) 0.000011
13	The output expression for the Karnaugh map shown below is 
	a) BD'+ABC b) BD'+BCD c) B'D+ABC d) BD'+AB

14	A minimized form of the function F is 
	a) X'Y'+YZ b) (XY)'+YZ c) X'Y'+YZ' d) X'Y+Y'Z
15	The output Y of the logic circuit given below is 
	a) 1 b) 0 c) X d) X'
16	If a 3-input NOR gate has eight input possibilities, how many of those possibilities will result in a HIGH output?
	a) 1 b) 2 c) 7 d) 8
17	A ripple counter's speed is limited by the propagation delay of:
	a) each flip-flop b) all flip-flops and gates c) the flip-flops only with gates d) only circuit gates
18	What is a shift register that will accept a parallel input and can shift data left or right called?
	a) tri-state b) end around c) bidirectional universal d) conversion
19	Asynchronous counters are often called _____ counters.
	a) toggle b) ripple c) binary d) flip-flop
20	When two counters are cascaded, the overall mod number is equal to the _____ of their individual mod numbers.
	a) product b) sum c) log d) reciprocal
21	Once a PAL has been programmed:
	a) it cannot be reprogrammed b) its outputs are only active HIGHs c) its outputs are only active LOWs d) its logic capacity is lost

22	The OR array in a PAL is _____.
	a) fixed b) programmable c) nonexistent; there is no OR array in a PAL d) floating
23	A decoder converts _____.
	a) noncoded information into coded form b) coded information into noncoded form c) HIGHs to LOWs d) LOWs to HIGHs
24	What is an analog-to-digital converter?
	a) It makes digital signals. b) It takes analog signals and puts them in digital format c) It allows the use of digital signals in everyday life. d) It stores information on a CD
25	A type of digital circuit technology that uses bipolar junction transistors is _____
	a) TTL b) CMOS c) NMOS d) LSI