

COMPUTER SCIENCE ASSIGNMENT

Boolean Algebra :Revision Assignment

Question 1.

- State **two Distributive laws** and prove any one with the help of truth table.
- Draw the truth table to prove $(x \Rightarrow y) \wedge (y \Rightarrow x) = x \Leftrightarrow y$
- Find the Dual for the Boolean equation: $AB' + BC' + 1 = 1$.
- Find the complement of the following expression $XY'Z + XY + YZ'$
- If $A=1, B=0, C=0, D=1$ find its
 - maxterm
 - minterm
- Using a truth table verify $X + XY = X$ and also state the law.
- State the principle of Duality.
- Convert : $AB + BC'$ to its canonical **SOP** form using Boolean algebra.
- Minimise the following expression using K-map:
 $F(a,b,c) = A'BC' + A'BC + ABC' + ABC$
- If $(\sim X \Rightarrow \sim Y)$ then write its:
 - Converse
 - Contra positive

Question 2.

- Given the Boolean function: $F(A, B, C, D) = ABC'D' + A'BC'D' + A'BC'D + ABC'D + A'BCD + ABCD$
 - Reduce the above expression by using 4-variable K-Map. Showing the various groups (i.e., octal, quads, and pairs).
 - Draw the logic gate diagram of the reduced expression.
Assume that the variables and their complements are available as inputs.
- Given the Boolean function: $F(P, Q, R, S) = \pi(0,1,2,3,5,7,8,9,10,11)$
 - Reduce the above expression by using 4-variable K-Map. Showing the various groups (i.e., octal, quads, and pairs).
 - Draw the logic gate diagram of the reduced expression.
Assume that the variables and their complements are available as inputs.

Question 3.

A school intends to select candidates for the Inter-School Athletic Meet, as per the criteria given below:

- The candidate is from the Senior School and has participated in an Inter School Athletic Meet earlier.

OR

- The candidate is not from the Senior School, but the height is between 5ft and 6ft and weight is between 50 kg and 60 kg.

OR

- The candidate is from the Senior School and has height between 5ft and 6ft. but the weight is not between 50 kg and 60 kg

The inputs are:

INPUTS	
S	Student is from senior school
W	Weight between 50 kg and 60 kg
H	Height is between 5ft and 6ft
A	Taken part in inter school Athletic meet earlier

Output: X-denotes the selection criteria[1 indicates selected and 0 indicates rejected in all cases]

Draw the truth table for the inputs and outputs given above and write the **SOP** expression for X(S,W,H,A)and reduce it using K-map.

Question 4:

(a) A person is allowed to travel in a reserved coach of the train, if he/she satisfies the criteria given below:

- The person has a valid reservation ticket and valid ID proof.

OR

- The person does not have a valid reservation ticket, but holds a valid pass issued by the railway department with valid ID proof.

OR

- The person is a disabled person and holds a valid pass issued by the railway department with valid ID proof.

The inputs are :

R : The person has a valid reservation ticket

P: The person holds a valid pass issued by the railway department

D: The person has a valid ID proof

H: The person is a disabled person

(In all the above cases 1 indicates yes and 0 indicates no)

Output: T- Denotes allowed to travel [1 indicates yes and 0 indicates no in all the cases]

Draw the truth table for the inputs and outputs given above and write the **POS** expression for T(R,P,D,H)

ECONOMICS ASSIGNMENT

Class : XII-C & D

Q.1 What is barter system of exchange?

Q.2 write any 4 shortcomings of barter system of exchange.

Q.3 Explain double coincidence of wants.

Q.4 Distinguish between the following:

- A. Currency and Deposit money.
- B. Limited and unlimited legal tender money.
- C. Convertible and inconvertible money.

Q.5 Explain the following terms.

- A. Fiat money.
- B. Deposit money.
- C. Token money.

CLASS XII E

Q.1 Explain the primary functions of money.

Q.2 Explain the secondary functions of money.

Q.3 Explain the role of money in modern economies. (Contingent functions)

Q.4 Explain M1, M2, M3 and M4 concepts of money supply.

Q.5 Define High Powered Money.

PHYSICS ASSIGNMENT

CLASS XII A

(1) Prepare notes of above explained topics.

(2) Solve conceptual problems related to explained topics.

CLASS XII B

1. Prepare notes from the marked topics in the book.

2. Do numericals 2,3,4 and 6