

Class-12

Economics

Ch-2 demand and law of demand:

Q1: What is an individual demand curve?

Q2: What is a market demand curve?

Q3: Why does the demand curve slopes downwards to right?

Q4: What is an income effect?

Q5: What is a substitution effect?

Class 12(History) Class:Tuesday

Chapter-Decolonisation in Asia & Africa

After defeating the KMT Party Mao focused on rebuilding China. The economy was in bad shape & there had been food shortage. Industry was backward & cultivation was inefficient. Inflation had been out of control & Mao first focussed on agriculture & cooperative farming started. Then he nationalised majority of the business & undertook a scheme of Five Year Plan for development of heavy industries. At the same time small factories were also established. The new constitution was adopted in 1954 & Mao started the Great Leap Forward Programme by which communism was adopted to a great extent. The Great Leap Forward involved 3 stages. The Cultural Revolution took place in 1966-69 & in this movement the Red Guards played a vital role. A scattered & shattered China was united by Mao. His policy made China stable & slowly it became a powerful state in World Politics.

Questions:

- a) Discuss-The Great Leap Forward
- b) State the importance of 100 Flower's Campaign.

Class-12

Business studies

Ch-6 Staff morale:

Q1: What is a staff morale?

Q2: How does an employee morale contributes to the growth of an organization?

Q3: What are ways through which employee morale can be boosted?

Q3: What are the advantages of high morale?

Q4: What are the disadvantages of low morale?

DREAMLAND SCHOOL

Class: XII

Subject: ART Paper-4

Original Imaginative Composition
in Colour

Create a composition of
a "selfie" being taken.

The backdrop too
should form an
essential part of the
drawing.

DREAMLAND SCHOOL

Class: XII

Subject: ART Paper-5

Instruments and tracing paper are allowed, but you are advised to restrict their use as far as possible.

Design an attractive poster in not more than four colours for the launching of a new car. The words "The Dream Car" must be written in the bold.

Work to the full extent of the sheet.

Special attention should be given to calligraphy and illustration.

DREAMLAND SCHOOL

Class: XII

Subject: ART Paper: 1

Objects Required:

A full plate, one full boiled egg, three slices of toasted bread.

Arrangement:

Cut the boiled egg into two halves and put it on the full plate along with three slices of toast.

If the group is painted, the background and foreground must also be painted.

DREAMLAND SCHOOL

Class : XII

Subject : ART Paper : 5

Design a cover for a book on mathematics for students. Incorporate the title "MATHEMAGIC" into your design.

Special attention must be given to the calligraphy and presentation

DREAMLAND SCHOOL

Class: XII

Subject: ART Paper: 4

Make a picture composition of five children playing with colours during the festival of HOLI. The backdrop for the painting should be an open verandah where a tub or bucket of coloured water can be seen.

A small child is hiding behind a pillar so as to avoid getting colour on herself, while others can be seen enjoying themselves and applying colour on each other.

DREAMLAND SCHOOL

Class : XII

Subject : ART Paper 1

Objects required :

A medium size aluminum kettle, a strainer, few earthen pots.

Arrangement :

Place the aluminum kettle at the back against a suitable back ground. All the other items should be arranged in such a way that they make an interesting composition.

ମହାନରାଜ୍ୟ
ସମ୍ରାଜ୍ୟର (ପୂର୍ବ
(ପୋଲିଟିକାଲ)

* "ଅଧିକ ବିନା (ସାମ୍ରାଜ୍ୟର, ଦେଶର ଅଧିକରଣ ସମ୍ପର୍କ) -

- i) ଜା (ନିଜର ଦଳର ଅଧିକାର ଅନୁସାରେ)
- ii) ସମ୍ରାଜ୍ୟ (ଜା) ଦ୍ୱାରା ପ୍ରତିଷ୍ଠା କରା ଯାଇଥିଲା
- iii) ସମ୍ରାଜ୍ୟ ବି ଦଳର ଅଧିକାର
- iv) ସମ୍ରାଜ୍ୟ ବିଦ୍ରୋହ ସମ୍ପର୍କର ଅଧିକାର (କ୍ରମ)

i) ସମ୍ରାଜ୍ୟର ଅଧିକାର - ସମ୍ରାଜ୍ୟର ଦେଶର ଦଳର (ନିଜର ଅଧିକାର ଅନୁସାରେ) ଅନୁସାରେ।

ii) ସମ୍ରାଜ୍ୟର ଅଧିକାର - ସମ୍ରାଜ୍ୟର ଦେଶର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ।

iii) ସମ୍ରାଜ୍ୟର ଅଧିକାର - ସମ୍ରାଜ୍ୟର ଦେଶର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ।

iv) ସମ୍ରାଜ୍ୟର ଅଧିକାର - ସମ୍ରାଜ୍ୟର ଦେଶର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ। ସମ୍ରାଜ୍ୟର ଅଧିକାର ଅନୁସାରେ।

Sociology

Date – 28.04.2020

Class – XII

Social Institutions

Forms Of Marriages

Endogamy Marriage

Endogamy is the combination of two Greek words. Endo means “within” or “intra” and gamy means “to marry”. So, Endogamy is intra marriage or inside marriage.

Therefore, endogamy is the type of marriage which takes place within the some group class, caste, family, religion, tribe etc. both the partners belong to the some class or caste. Endogamous marriage is that which is controlled by the some group.

According to Folsom, endogamous is the rule that one must marry within ones caste or group”. In endogamous, marriages with the same families are prohibited. In India the inter caste marriages are not socially approved and discouraged hitter also declared the marriage of Aryan and Jewish as a criminal act.

The practice of endogamy among the Hindus, is classified into three categories.

- a) Varna endogamy – The Varna system is a four fold division of the Hindu society such as the Brahman, the Kshatriya, the Vaishya, the Sudra. According to the practice of varna endogamy, a Brahmin should marry only a Brahmin and so on.
- b) Caste endogamy – This rule prescribes that marriage is allowed only within one’s own caste.
- c) SUB Caste endogamy – Each sub caste like the caste considered as endogamous unit for the purpose of marriage. Among the Hindus, as a result of these rules, the choice of marriage may ultimately be restricted to a series of kin clusters living in a fairly restricted geographical area.

Levirate Marriage –

Levirate, custom or law decreeing that a widow should, or in rare cases must, marry her dead husband’s brother. The term comes from the Latin *levir*, meaning “husband’s brother.” The “brother” may be a biological sibling of the deceased or a person who is socially classified as such. Where the brother is required to be younger than the deceased, the custom is called the junior levirate.

Sororate Marriage-

In sororate, when a man's wife died, he was expected to marry her sister. Again, an unmarried sister or other female of the same lineage would be the preferred choice, but polyandry might be permitted in cases of sororate.

Sororate, shown above in a matrilineal, matrilocal culture, functioned in much the same way as levirate. It was sometimes practiced in patrilineal, patrilocal societies with preferred cross cousin marriage. If a man had married his cross cousin, than her sister was probably married already to his brother. The sister would than have two husbands, but the children would stay within their father's patrilineage.

Parallel and Cross Cousins

In some cultures, it is acceptable to marry cousins, who are **consanguineal** kin, meaning related by blood. There are a couple of different arrangements that this can take.

In **parallel cousin marriage** is marriage between the children of same sex siblings. Say a mother's daughter marries her sister's son. These two newlyweds would be the result of parallel cousin marriage, where the children of two sisters or two brothers marry. The marriage of two brother's children is more common of these types of cousin arrangements. This is called **patrilateral** parallel cousin marriage.

Now, **cross cousin marriage** occurs when children of siblings of the opposite sex marry, basically the opposite of parallel cousin marriage. Let's say a father's son marries the daughter of the father's sister.

As an aside: compared to our own culture, we might find some of these traditions to be strange or unusual. But keep in mind a concept in anthropology known as **cultural relativism**. This means that we don't judge other cultures based on our own, but instead try to understand them based on the cultural context in which we find them.

Put another way, what seems strange to us might be very common in some places and would not seem strange there at all.

Home Work –

1. Define Levirate.
2. Define Sororate
3. Define Endogamy
4. Define Cross cousin Marriage.
5. Explain the division of Hindu Endogamy.

Accountancy Class XII

Admission of a Partner – Revision (2)

Illustration 2.

X and Y are partners having Capitals of ₹ 80,000 and ₹ 20,000 respectively and a profit sharing ratio of 4 : 1. Z is admitted for 1/5 th share in the profits of the firm and he pays ₹ 30,000 as Capital. Find out the value of the Goodwill.

Solution:

Total Capital of the firm $30,000 \times 5/1$	=	₹ 1,50,000 [Taking Z's Capital as base]
Less : Combined Adjusted Capital		
80,000 + 20,000 + 30,000	=	<u>₹ 1,30,000</u>
Hidden Goodwill	=	<u>₹ 20,000</u>

Illustration Regarding Valuation of Goodwill

Valuation of Goodwill for a non corporate assessee

Illustration 3.

From the following information, calculate the value of goodwill by super profit method.

- Average Capital employed in the business ₹ 7,00,000.
- Net trading profit of the firm for the past three years ₹ 1,47,600; ₹ 1,48,100 and ₹ 1,52,500.
- Rate of Interest expected from capital having regard to the risk involved —18%.
- Fair remuneration to the partners for their services 12,000 per annum.
- Sundry Assets (excluding goodwill) of the firm ₹ 7,54,762.
- Sundry Liabilities ₹ 31,329.
- Goodwill valued at 2 years' purchase

Solution:

Years	Profits Given ₹	Adjusted Profits after Considering Remunerations ₹
1st	1,47,600	1,35,600
2nd	1,48,100	1,36,100
3rd	1,52,500	1,40,500
Total Profits	4,48,200	4,12,200
Average Adjusted Annual Profits (4,12,200/3)		₹ 1,37,400
Less : Normal Return on Capital @ 18% of ₹ 7,00,000		1,26,000
Super Profits		11,400

Therefore Goodwill = Super profit × year of Purchase = 11,400 × 2 = 22,800.

Illustration 4.

New partner pays premium for Goodwill but Goodwill Account is appearing at the Balance Sheet at full value.

Gargi and Khana were partners sharing profits and losses as 5 : 3. They agreed to admit Liabati as a new partner on payment of ₹ 9,000 as premium for Goodwill. The new profit sharing ratio was agreed as 3 : 2 : 1. The Goodwill Account appearing in the books amounted to ₹ 54,000. Pass the necessary Journal Entries.

Solution:**Points to be noted**

Liabati brought in ₹ 9,000 as his share of premium for goodwill for 1/6 in there.

Therefore, Full value of Goodwill = 9,000 × 6/1 = 54,000

There is neither overvaluation nor undervaluation.

Calculation of Sacrifice	Gargi	Khana	Lilabati
Old Ratio	$\frac{5}{8}$	$\frac{3}{8}$	—
New Ratio	$\frac{3}{6}$ $5/8 - 3/6 = (30 - 24)/48 = 6/48$ (Sacrifice)	$\frac{2}{6}$ $3/8 - 2/6 = (18 - 16)/48 = 2/48$ (Sacrifice)	$\frac{1}{6}$ Nil - $1/6 = (0 - 8)/48 = 8/48$ (Gain)

Journal Entries

Date	Particulars	L.F.	Dr.	Cr.
			Amount ₹	Amount ₹
	Gargi's Capital A/c Dr. Khana's Capital A/c Dr. To Goodwill A/c (Goodwill Account written off between the old partners in old ratio)		33,750 20,250	54,000
	Bank A/c Dr. To Gargi's Capital A/c To Khana's Capital A/c (Premium for Goodwill brought in by new partner and shared by old partners in their sacrifice ratio 3 : 1)		9,000	6,750 2,250

Illustration 5.

Where the new partner pays premium for goodwill and also brings his own goodwill to the business.

Amal and Bimal are partners sharing profits in the ratio of 2 : 3. Charu is admitted as a partner on 1st January, 2013 and he pays into the firm cash ₹ 9,000 out of which ₹ 3,000 is premium on his admission to a quarter share, the ratio between Amal and Bimal to be 1 : 2.

Charu also brings into the business his own Goodwill to be run as a separate unit and the Goodwill is agreed at ₹ 4,800.

Show the entries required to give effect to the above arrangements (for both the units separately).

Solution:

Points to be noted

- For the First unit, ₹ 3,000 paid as premium should be shared by Amal and Bimal in their sacrifice ratio. We should calculate the new ratio and the sacrifice ratio.
- For the 2nd unit, an adjustment should be made for Charu's own goodwill to be credited to his capital and debited to Amal and Bimal in remaining ratio 2 : 3, excluding Charu's share.

Working Notes :

1. Calculation of New Profit Sharing Ratio

Charu's share = $1/4$; Balance left = $1 - 1/4 = 3/4$. Amal's new share = $3/4 \times 1/3 = 1/4$;

Bimal's new share = $3/4 \times 2/3 = 2/4$ and Charu's new share = $1/4$.

New Ratio = 1:2:1 Sacrifice Ratio = 3 : 2. [= Old Ratio - New Ratio]

Journal Entries

Date	Particulars	L.F.	Dr.	Cr.
			Amount ₹	Amount ₹
1.1.13	Bank A/c Dr. To Charu's Capital A/c [Amount invested as capital contribution by Charu]		9,000	9,000
1.1.13	Charu's A/c Dr. To Amal's Capital A/c [3/5] To Bimal's Capital A/c [2/5] [Premium paid by Charu and credited to Amal and Bimal in their sacrifice ratio 3: 2]		3,000	1,800 1,200
1.1.13	Amal's Capital A/c [2/10 of ₹ 4,800] Dr. Bimal's Capital A/c [3/10 of ₹ 4,800] Dr. To Charu's Capital A/c [Adjustment made for Charu's own Goodwill brought into the business]		960 1,440	2,400

4. Regarding Accumulated Profits/Losses or Reserve & Surplus

It is needless to state that if there is any accumulated profits or losses or other surpluses, the same should be transferred to old partner's Capital or Current Account as per old profit sharing ratio before the admission of new partner :

Entries

(a) For transferring accumulated profits

Profit & Loss A/c (Cr.)	Dr.
General Reserve A/c	Dr. (as per old profit sharing ratio)
Any other Surpluses A/c	Dr.
To Old Partner's Capital A/c	

(b) For transferring accumulated losses

Old Partner's Capital A/c	Dr.
To Accumulated Losses A/c	

Illustration 6.

X, Y and Z were in partnership sharing profits and losses in the ratio 3 : 2 : 1. Their Balance Sheet stood as under:

**Balance Sheet
as at 1.4.2012**

Liabilities	₹	Assets	₹
Capital		Fixed Assets	80,000
X	40,000	Machinery Replacement	15,000
Y	30,000	Investment:	
Z	<u>20,000</u>	Investment (MV ₹ 7,000)	10,000
General Reserve	12,000	Current Asset	33,000
Machinery Replacement Fund	16,000		
Investment Fluctuation Fund	15,000		
Current Liabilities	5,000		
	<u>1,38,000</u>		<u>1,38,000</u>

Show the entries for accumulated profits/reserves assuming that Mr. T is admitted as partner for 1/5th share.

Solution:

**In the books of.....
Journal**

Date	Particulars	L.F.	Debit ₹	Credit ₹
	General Reserve A/c	Dr.	12,000	
	Investment Fluctuation Fund A/c	Dr.	12,000	
	(₹ 15,000 – ₹ 3,000)			
	To X - Capital A/c			12,000
	To Y - Capital A/c			8,000
	To Z - Capital A/c			4,000
	(Accumulated profits are distributed in 3 : 2 : 1)			

5. Regarding Adjustment of Capital

When a new partner is admitted, the total amount of capital is determined on the basis of new partners' capital and his profit sharing ratio. On the basis of new profit sharing ratio old partners' capital is to be ascertained. Thereafter, existing capital (after considering all adjustments) is to be compared with the capital so ascertained on the basis of new profit sharing ratio, and excess if any, is to be withdrawn by the partner concerned and deficit, if any, is to be brought in by the concerned partner. Sometimes, the excess or deficit, is to be adjusted against the current account of the partners.

Illustration 7.

A and B are partner in a firm sharing profit and losses in the ratio of 4 : 1. Their Balance Sheet as on 31st March 2013 stood as follows :

Liabilities	₹	Assets	₹
Capital A/c		Furniture	20,000
A	25,000	Stock	40,000
B	<u>65,000</u>	Bills Receivable	10,000
Reserve	20,000	Debtors	30,000
Creditors	25,000	Cash at Bank	40,000
Bills Payable	5,000		
	<u>1,40,000</u>		<u>1,40,000</u>

They agreed to take C as a partner with effect from 1st April 2013 on the following terms :

- (a) A, B and C will share profit and losses in the ratio of 5 : 3 : 2.
- (b) C will bring ₹ 20,000 as premium for goodwill and ₹ 30,000 as capital.
- (c) Half of the Reserve is to be withdrawn by the partners.
- (d) The asset will be revalued as follows : Furniture ₹ 30,000; Stock ₹ 39,500; Debtors ₹ 28,500.
- (e) A creditor of ₹ 12,000 has agreed to forgo his claim by ₹ 2,000.
- (f) After making the above adjustments, the capital accounts of A and B should be adjusted on the basis of C's capital, by bringing cash or withdrawing cash as the case may be.

Show Revaluation Account, Partners' Capital Account and the Balance Sheet of the new firm :

Unsolved Questions

5. Jain and Gupta were partners in a firm sharing profits and losses in the ratio of 4 : 3. Following is the Balance Sheet of the firm as at 31st March, 2018:

BALANCE SHEET OF JAIN AND GUPTA as at 31st March, 2018

Liabilities	₹	Assets	₹
Sundry Creditors	20,000	Cash	14,800
Bills Payable	3,000	Debtors	20,500
Bank Overdraft	17,000	Less: Provision for Doubtful Debts	300
Capital A/cs:		Stock	20,000
Jain	70,000	Plant	40,000
Gupta	60,000	Building	75,000
	1,30,000		
	1,70,000		1,70,000

They agreed to admit Mishra as partner with effect from 1st April, 2018 with 1/4th share in profits on the following terms:

- Mishra will bring in Capital to the extent of 1/4th of the total capital of the new firm after all adjustments have been made.
- Building is to be appreciated by ₹ 14,000 and Plant to be depreciated by ₹ 7,000.
- The Provision for Doubtful Debts on Debtors is to be raised to ₹ 1,000.
- Mishra will bring ₹ 21,000 as his share of Goodwill.

Prepare Revaluation Account, Partners' Capital Accounts and Balance Sheet of the firm immediately after Mishra's admission.

6. A and B are partners in a firm sharing profits in the ratio of 5 : 3. Their Balance Sheet as at 31st March, 2018 is given below:

Liabilities	₹	Assets	₹
Capital A/cs:		Goodwill	10,000
A	55,000	Land and Building	25,000
B	30,000	Plant and Machinery	35,000
Creditors	19,000	Stock	20,000
Bills Payable	8,000	Debtors	25,000
General Reserve	16,000	Investments	14,000
Provision for Doubtful Debts	1,500	Cash	2,400
Outstanding Salary	2,400	Prepaid Insurance	500
	1,31,900		1,31,900

They agreed to admit C on 1st April, 2018 for 1/5th share of profit in future on the following terms:

- C brings in ₹ 5,200 as his share of Goodwill in cash and will bring in such an amount that his Capital will be 1/5th of the total capital of the new firm.
- Land and Building and Plant and Machinery were to be valued at ₹ 38,000 and ₹ 30,000 respectively.
- The Provision for Doubtful Debts was to be maintained up to ₹ 1,000.
- A Liability for ₹ 1,200 included in Sundry Creditors was not likely to arise.
- Investments of ₹ 10,000 were taken over by old partners in their profit-sharing ratio.
- B is to withdraw ₹ 2,400 in cash.
- An amount of ₹ 100 is outstanding for repairs.

Prepare Revaluation Account, Partners' Capital Accounts, and Balance Sheet of the new firm.

CLASS 12
COMPUTER SCIENCE
BOOLEAN ALGEBRA (KARNAUGH MAPS)

Continuation.....

Simplification Procedure for Karnaugh maps

Pair Reduction Rule : Remove the variable which changes its state from complemented to uncomplemented or vice versa. Pair removes one variable only.

x \ yz	y'z'	y'z	yz	yz'
	00	01	11	10
x' 0	0	0	1	1
x 1	1	1	0	0

Quad Reduction Rule : Remove the two variables which change their states. A quad removes two variables.

ab \ cd	c'd'	c'd	cd	cd'
	00	01	11	10
a'b' 00	1	1	0	1
a'b 01	1	1	0	0
ab 11	0	0	1	0
ab' 10	0	1	0	0

Octet Reduction Rule : Remove the three variables which changes their state. Octet removes three variables.

ab \ cd	c'd'	c'd	cd	cd'
	00	01	11	10
a'b' 00	0	1	1	1
a'b 01	0	1	1	0
ab 11	0	1	1	0
ab' 10	0	1	1	0

Map Rolling : Map rolling means roll the map considering the map as if its left edges are touching the right edges and top edges are touching bottom edges. While marking the pairs quads and octet, map must be rolled.

x \ yz	y'z'	y'z	yz	yz'
	00	01	11	10
x'	0	1	1	0
x	1	0	0	1

x \ yz	y'z'	y'z	yz	yz'
	00	01	11	10
x'	1	0	0	1
x	1	0	0	1

Overlapping Groups : Overlapping means same 1 can be encircled more than once. Overlapping always leads to simpler expressions.

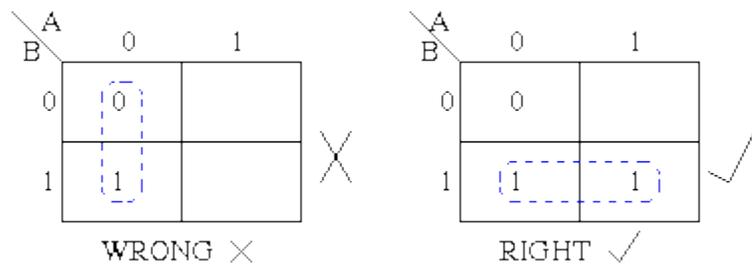
x \ yz	y'z'	y'z	yz	yz'
	00	01	11	10
x'	1	1	0	0
x	0	1	0	0

Redundant Group : It is a group whose all 1's are overlapped by other groups. Redundant groups must be removed. Removal of redundant group leads to much simpler expression.

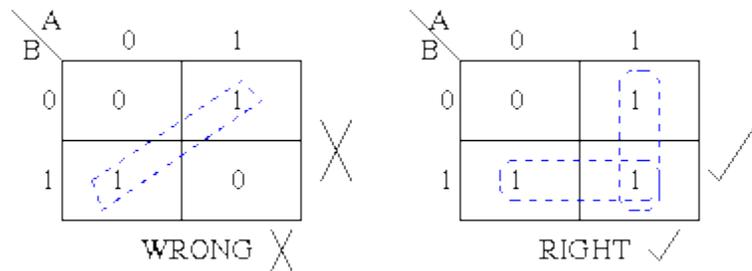
x \ yz	y'z'	y'z	yz	yz'
	00	01	11	10
x'	1	1	0	0
x	0	1	1	0

Karnaugh Maps - Rules of Simplification :

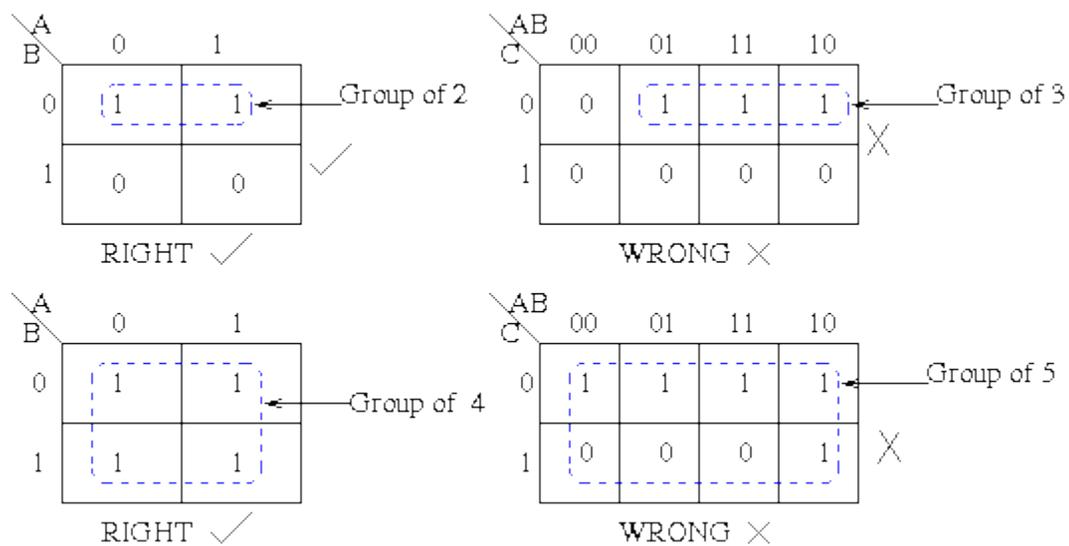
- Groups may not include any cell containing a zero



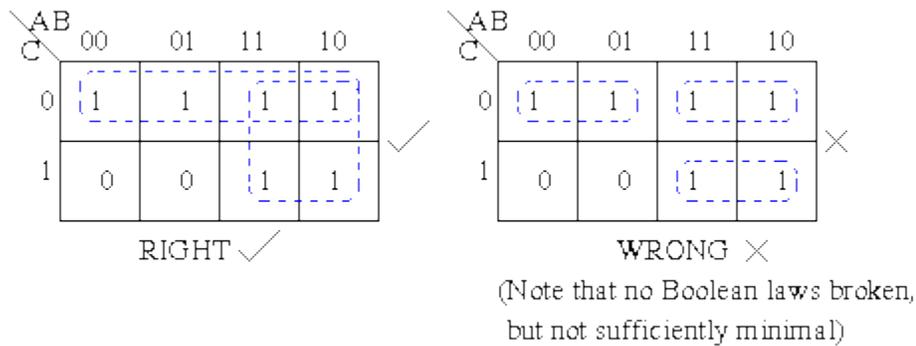
- Groups may be horizontal or vertical, but not diagonal.



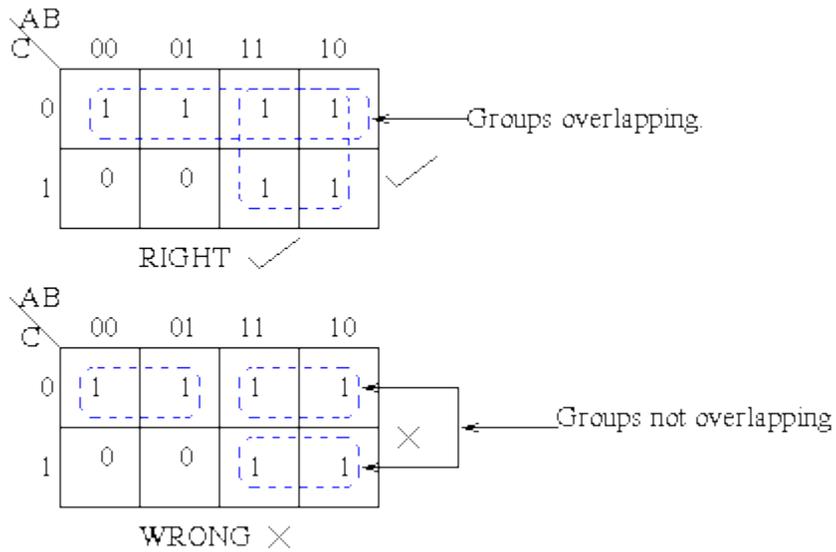
- Groups must contain 1, 2, 4, 8, or in general 2^n cells. That is if $n = 1$, a group will contain two 1's since $2^1 = 2$. If $n = 2$, a group will contain four 1's since $2^2 = 4$.



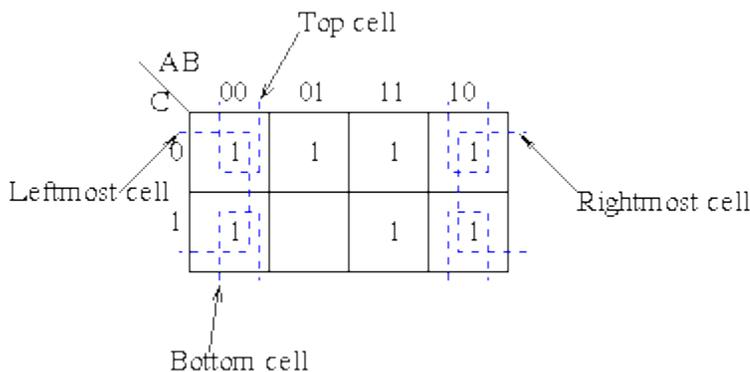
- **Each group should be as large as possible.**



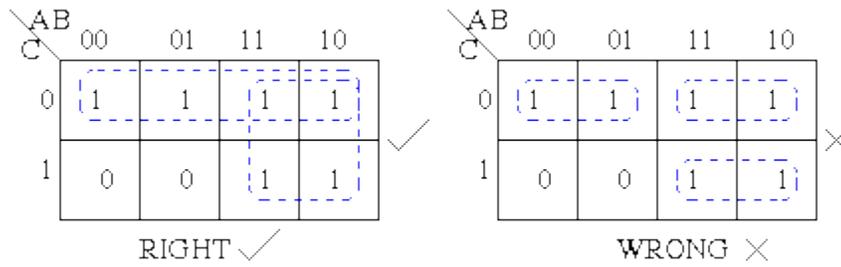
- **Groups may overlap.**



- **Groups may wrap around the table. The leftmost cell in a row may be grouped with the rightmost cell and the top cell in a column may be grouped with the bottom cell.**



- There should be as few groups as possible, as long as this does not contradict any of the previous rules.



SOLVED EXAMPLES:

Example 1:

Represent the following boolean expression in a K-map and simplify.

$$F = x'yz + x'y'z' + xy'z' + xy'z$$

Solution :

The K-map is as follows :

x \ yz	y'z'	y'z	yz	yz'
	00	01	11	10
x'	0	0	1	1
x	1	1	0	0

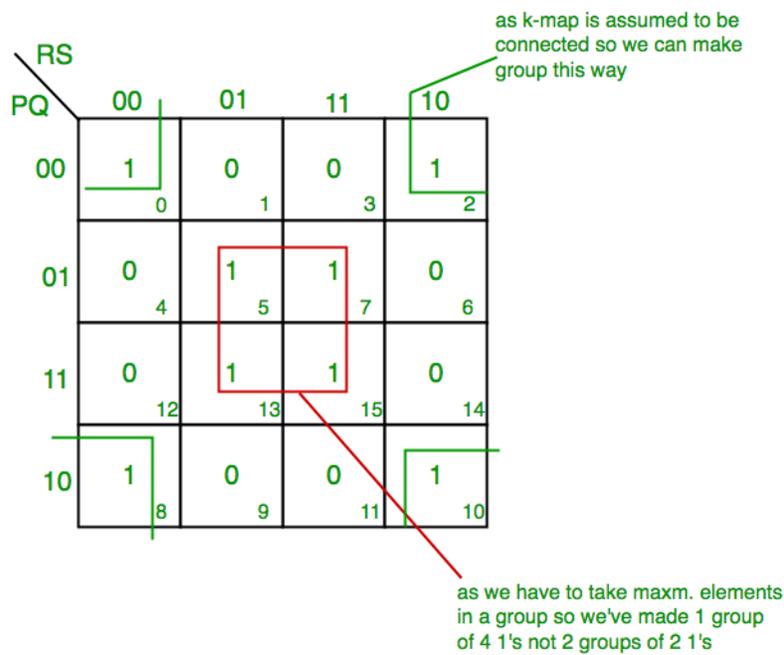
Hence the simplified expression is

$$F = x'y + xy'$$

Example 2:

(SOP FORM)

$$F(P,Q,R,S) = \Sigma(0,2,5,7,8,10,13,15)$$



From **red** group we get product term—
QS

From **green** group we get product term—
Q'S'

Final expression (QS+Q'S')

ASSIGNMENT III (PART - 5)

17. Minimize the following problems using the Karnaugh maps method.

$$Z = f(A,B,C) = \bar{A}B + B\bar{C} + BC + A\bar{B}\bar{C}$$

18. Given the Boolean function $F(A, B, C, D) = \Sigma (2, 3, 4, 5, 6, 7, 8, 10, 11)$

Reduce the above expression by using 4-variable Karnaugh map, showing the various groups (i.e. octal, quads and pairs).

19. Simplify the following boolean expression using K-map.

$$F = a'bc + ab'c' + abc + abc'$$

20. Minimize the following problems using the Karnaugh maps method.

$$Z = f(A,B,C) = \bar{A}\bar{B}\bar{C} + \bar{A}B + AB\bar{C} + AC$$

.तुलसी के पद

" दूल्ह श्री रघुनाथ बने..... पल टारत नाही ।"

क) श्री राम के दुल्हा तथा सीता जी के दुल्हन बनने के दृश्य का ससन्दर्भ वर्णन करे।

उत्तर: प्रस्तुत पद तुलसीदास द्वारा रचित 'कवितावली' : बालकांड से हमारी पाठ्य पुस्तक 'काव्य मंजिरी' में संकलित किया गया है ।

उपरोक्त पंक्तियों में राम और सीता के विवाह का अनुपम वर्णन किया गया है। राजा जनक के सुंदर महल में दूल्हे के रूप में दशरथ नंदन श्री राम और दुल्हन के रूप में जनक की पुत्री सीता जी है। मिथिला नगर की सारी नारियां विवाह के शुभ एवं मनमोहक मंगल गीत गाती हैं। समस्त ब्राह्मण समुदाय एक साथ जुट कर विवाह से संबंधित वेदों का पाठ करते हैं और राम- सीता (युगल) को आशीर्वाद देते हैं।

ख) ' राम के रूप निहारती जानकी, कंकन के नग की परछाई ।' - आशय स्पष्ट करे ।

उत्तर : जिस समय प्रभु राम और सीता जी का जनकपुरी में राजा जनक के महल में विवाह हो रहा था, उस समय सीता जी के हाथ में कंगन का नग (चमकीला बहुमूल्य पत्थर) बंधा था। सीता जी प्रभु श्री राम के सुंदर व मनमोहक छवि अपने कंगन की परछाई में देखने लगी। लज्जया के कारण वे सभी लोगों के सामने प्रत्यक्ष रूप से अपने पति को नहीं देख पा रही थी। अतः उन्होंने अपने हाथ में बंधे कंगन के नग का सहारा लिया। इससे माता सीता के लज्जयाशील होने का भाव स्पष्ट होता है।

ग) विनय पत्रिका के आधार पर तुलसीदास की समर्पण भक्ति भावना संछेप में लिखें।

उत्तर : विनय पत्रिका ' में तुलसीदास की समर्पण भक्ति भावना चरम उत्कर्ष पर है।' विनय पत्रिका में तुलसीदास ने अपनी भक्ति श्री राम से प्रथम माँ जानकी को समर्पित की है।

तुलसीदास जी ने पूर्ण रूप से अपने आप को राम के प्रति समर्पित किया है। वे कहते हैं कि यदि श्री राम की कृपा मुझपर हो जाएगी तो मैं संतो जैसा स्वभाव कर सकूँगा।

' विनय पत्रिका' तुलसीदास ने श्री राम के सम्मुख अपने हृदय की विनय भावना को अनेको रूपों में प्रस्तुत किया है। उन्होंने दीनता, दुःख, निवेदन, असमर्थता आदि रूप प्रस्तुत किये हैं। तुलसीदास की भक्ति दास्य भाव की थी। दास्य भाव भक्ति में भगवान महान है और भक्त दीन है।

" जाऊं कहाँ तजि चरण तुम्हारे " ।

तुलसीदास जी ने भगवान राम जी उदारता पर पूरी तरह विश्वास किया है। वे दीन दुःखियों के उद्धारक हैं।

" ऐसो को उदार जग माही ।"

Home work

"

जाऊं कहाँ तजि चरण तुम्हारे कहाँ अपुनेयो हारे।"

क) पद्यांश का भाव स्पष्ट करे।

ख) इस पद्यांश में कवि के किसका- किसका उदाहरण दिया है?

Assignment - 7
Maths class - XII
Matrix and Determinant

Solve the linear equation by the method of matrix method :-

$$\frac{2}{x} + \frac{3}{y} - \frac{4}{z} = -3, \quad \frac{1}{x} + \frac{2}{y} + \frac{6}{z} = 2 \text{ and}$$

$$\frac{3}{x} - \frac{1}{y} + \frac{2}{z} = 5.$$

Ans:- Let $\frac{1}{x} = a$, $\frac{1}{y} = b$, $\frac{1}{z} = c$.

Now $2a + 3b - 4c = -3$, $a + 2b + 6c = 2$ and

$$3a - b + 2c = 5.$$

Now $Ax = B$.

Where $A = \begin{bmatrix} 2 & 3 & -4 \\ 1 & 2 & 6 \\ 3 & -1 & 2 \end{bmatrix}$, $X = \begin{bmatrix} a \\ b \\ c \end{bmatrix}$

$$B = \begin{bmatrix} -3 \\ 2 \\ 5 \end{bmatrix}.$$

Now $|A| = \begin{vmatrix} 2 & 3 & -4 \\ 1 & 2 & 6 \\ 3 & -1 & 2 \end{vmatrix} = 2(4 + 6) - 3(2 - 18) - 4(-1 - 6)$
 $= 96 \neq 0.$

Now

$$\text{Adj}A = \begin{bmatrix} \begin{vmatrix} 2 & 6 \\ -1 & 2 \end{vmatrix} & -\begin{vmatrix} 1 & 6 \\ 3 & 2 \end{vmatrix} & \begin{vmatrix} 1 & 2 \\ 3 & -1 \end{vmatrix} \\ -\begin{vmatrix} 3 & -4 \\ -1 & 2 \end{vmatrix} & \begin{vmatrix} 2 & -4 \\ 3 & 2 \end{vmatrix} & -\begin{vmatrix} 2 & 3 \\ 3 & -1 \end{vmatrix} \\ \begin{vmatrix} 3 & -4 \\ 2 & 6 \end{vmatrix} & -\begin{vmatrix} 2 & -4 \\ 1 & 6 \end{vmatrix} & \begin{vmatrix} 2 & 3 \\ 1 & 2 \end{vmatrix} \end{bmatrix}^T$$

$$= \begin{bmatrix} 10 & 16 & -7 \\ -2 & 16 & 11 \\ 26 & -16 & 1 \end{bmatrix}^T = \begin{bmatrix} 10 & -2 & 26 \\ 16 & 16 & -16 \\ -7 & 11 & 1 \end{bmatrix}$$

Now $A^{-1} = \frac{\text{Adj}A}{|A|} = \frac{1}{96} \begin{bmatrix} 10 & -2 & 26 \\ 16 & 16 & -16 \\ -7 & 11 & 1 \end{bmatrix}$

Now $X = A^{-1}B = \frac{1}{96} \begin{bmatrix} 10 & -2 & 26 \\ 16 & 16 & -16 \\ -7 & 11 & 1 \end{bmatrix} \begin{bmatrix} -3 \\ 2 \\ 5 \end{bmatrix}$

$$= \frac{1}{96} \begin{bmatrix} -30 - 4 + 130 \\ -48 + 32 - 80 \\ 21 + 22 + 5 \end{bmatrix} = \frac{1}{96} \begin{bmatrix} 96 \\ -96 \\ 48 \end{bmatrix}$$

Now $a=1, b=-1, c=\frac{1}{2}$

$$= \begin{bmatrix} 1 \\ -1 \\ \frac{1}{2} \end{bmatrix}$$

Hence $x=1, y=-1, z=2$.

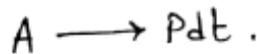
HW Solve the linear equation by the method of matrix method:—

① $x+y-z=3, 2x+3y+z=10, 3x-y-7z=1$

② $\frac{x}{2} - \frac{y}{3} + \frac{z}{2} = 10, \frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 10, \frac{3}{x} - \frac{1}{y} + \frac{2}{z} = 13.$

Integrated Rate Equation :-

1. Zero order Reaction :-



Let, conc. of A at $t=0$ be $[A_0]$ and after t time interval its conc. becomes $[A]$.

$$\text{Rate} = -\frac{d[A]}{dt} = k[A]^0 \quad (\text{where, } k \text{ is rate const.})$$

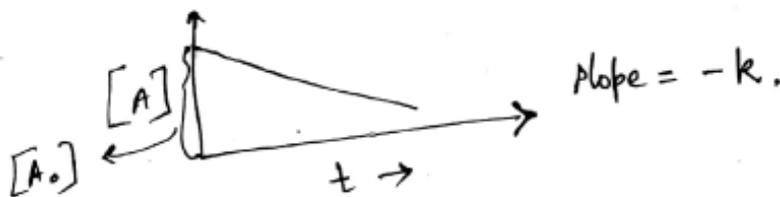
$$\Rightarrow -d[A] = k dt$$

$$\text{or, } -\int_{[A_0]}^{[A]} d[A] = k \int_0^t dt$$

$$\text{or, } -([A] - [A_0]) = kt$$

$$\text{or, } [A] = -kt + [A_0] \dots \dots \textcircled{1}$$

$y = mx + c$



Unit of rate const. (k) of zero order reaction.

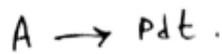
$k \rightarrow (\text{conc.})^{1-n} \text{ time}^{-1}$ (for n^{th} order reaction).

Zero order reaction \rightarrow

$$k = (\text{conc})^{1-0} \text{ time}^{-1}$$

$$\Rightarrow k \rightarrow \text{mol L}^{-1} \text{ s}^{-1} / \text{mol L}^{-1} \text{ min}^{-1} / \text{mol L}^{-1} \text{ h}^{-1}$$

2. **
First Order Reaction:-



Let, at $t=0$, conc. of $A = [A_0]$, and after time interval t , conc. of $A = [A]$.

$$\text{Rate} = k[A] \quad [k \text{ is the rate const.}]$$

$$\text{or, } -\frac{d[A]}{dt} = k[A]$$

$$\text{or } \int_{[A_0]}^{[A]} \frac{d[A]}{[A]} = -k \int_0^t dt$$

$$\text{or, } \ln[A] - \ln[A_0] = -kt$$

$$\text{or } \boxed{\ln \frac{[A]}{[A_0]} = -kt} \dots \dots \textcircled{1}$$

$$\text{or } \boxed{2.303 \log \frac{[A]}{[A_0]} = -kt} \dots \dots \textcircled{2}$$

$$\text{or } k = -\frac{2.303}{t} \log \frac{[A]}{[A_0]}$$

$$\text{or } \boxed{k = \frac{2.303}{t} \log \frac{[A_0]}{[A]}} \dots \dots \textcircled{3}$$

From eq. ① —

$$\frac{[A]}{[A_0]} = e^{-kt}$$

$$\text{or, } \boxed{[A] = [A_0] e^{-kt}} \dots \dots \textcircled{4}$$

DREAMLAND SCHOOL

Assignment:

1. A first order reaction is 40% completed in 50 minutes. How much time will it take for 80% completion of this reaction?
Ans: 158 mins.
2. Show that the time required for the completion of $3/4^{\text{th}}$ of a 1^{st} order reaction is twice the time required for completion of half of the reaction.
Ans: 1.87×10^4 sec
3. The time required for 25% completion of a 1^{st} order reaction is 30 minutes. Calculate the time required in minutes for 90% completion.
Ans: 480 mins.
4. Express the rate law expression for the reaction



If the order of reaction is first, second and zero with respect to A, B and C respectively. How many times will the rate of reaction increase if the concentration of A, B and C are doubled in the above equation?

Ans: 8times

**DREAMLAND SCHOOL
CLASS XII
ENGLISH LANGUAGE
ASSIGNMENT -6
ACADEMIC YEAR-2020-21**

Date-28-04-2020

I. READ THE PASSAGE GIVEN BELOW AND ANSWER THE QUESTIONS:

What colour is the number ‘ eight’? Does a square taste sweet or salty? Have you ever felt the colour ‘green’? For most people, these questions don’t make sense. They don’t feel colours or taste shapes. But their senses are interrelated in curious ways. This is known as synaesthesia.

Jennifer and Catherine Strutt are Aussie twins. They have a form of synaesthesia in which sounds and colours are mingled. For example, they use colours when they listen to music. For Catherine, the sound of a double bass is dark green or blue-red coloured. For Jennifer, flutes, clarinets and other wind instruments are light blue.

Scientists have observed that about one in every hundred people has synaesthesia, and that it is frequent among artists, poets and musicians. Many of the people who have it likely haven’t realized yet. They may think that everybody sees the colour yellow when they think of the number ‘seven’.

Linking colours with sounds, numbers or letters is the most widespread form of synaesthesia. However, there are other types. James Wannerton from the north of England has always associated certain words with certain tastes. He can’t help it: when he hears the word, he automatically experiences the taste in his mouth.

Unluckily, James’s condition has brought problems. It’s difficult to concentrate when you’re experiencing so many different flavours. It has caused a lot of trouble in relationships as well. Some names have specific tastes for James. He has sometimes found it hard to like a person if their name tastes bad!

1. For each of the words given below, write a sentence using the same word unchanged in form, but with a different meaning from that which it carries in the passage:

- a. dark
- b. light
- c. letters
- d. form

2. Answer the following questions in your own words:

- a. What is different about people with synaesthesia?
- b. Why is it difficult for James to concentrate?
- c. How could people not realize they have synaesthesia?

3. Summarize the passage in about 100 words.

II. Fill in each blank with a suitable word:

- 1. Let us talk _____ them tomorrow about their homework.
- 2. The Principal gave us a talk _____ bullying.

3. Manoj was not at home when his grandfather passed _____.
 4. This novel has been written _____ Jeffrey Archer.
 5. In the Middle Ages, books were written _____ a variety of subjects.
 6. When we visited Dalhousie, we passed _____ the house in which we had lived twenty years ago.
 7. Rashni has applied _____ a scholarship in an American university.
 8. I was forced to turn _____ Raima's invitation as I was going to be out of town the following week.
 9. Arjun applied _____ the university for higher studies but was denied admission.
 10. He had promised her that he would come to the party but he didn't turn _____.
 11. I have not seen Ravi _____ ten years.
 12. It has been a long time _____ I saw her.
 13. Gargi worked _____ a good cause .
 14. We failed to agree _____ a common plan of action.
 15. When I explained my plan of action to him, he did not agree _____ me.
 16. I am in favour _____ the proposition.
 17. He acted in opposition _____ his father's wishes.
 18. He ran away _____ fear _____ being murdered.
 19. He laughed to himself as he gazed _____ the stars.
 20. It was a pleasant day, I went out _____ a walk.
-