East Point School

Study Notes

Class: - X (2021-22)

ENGLISH

Study Notes # 12

Date: 21/08/2021

THE NECKLACE

About the Author

Henri René Albert Guy de Maupassant (5 August 1850 – 6 July 1893) was a French writer, remembered as a master of the short story form, and as a representative of the naturalist school of writers, who depicted human lives and destinies and social forces in disillusioned and often pessimistic terms. He wrote some 300 short stories, six novels, three travel books, and one volume of verse.

About the lesson

The story revolves around a selfish lady named Matilda. She is not satisfied with her life as she wants a rich husband but because she belongs to a family of clerks and her family is unable to give dowry she is married to a clerk. One day, both the husband and wife are invited to a party at the minister's house. But Matilda does not have good clothes and jewels to wear at such a party. Her husband suggests her to buy a dress and ask an old friend for jewellery. She then borrows a necklace from her friend and goes to the party. What happens next proves to be a lesson for the unhappy lady.

Summary

- Matilda was pretty, young lady born in the family of clerks.
- She was married to a pretty clerk in the office of the Board of education, as she was having no dowry to marry a rich man.
- Matilda was simple but unhappy.
- She suffered incessantly, feeling herself born for all delicacies and luxuries.
- She suffered from poverty an shabby walls and worn chairs that makes her tortured and angered her.
- One evening her husband returned home with an invitation for party at minister's residence.
- Instead of being delighted. She was sad and unhappy.
- It was because she was not having perfect dress for the occasion.

- Finally she had beautiful dress of four hundred Frances.
  But even then she was disturbed anxious as having no jewel to adorn herself.
  She went to her friend Mme Forestier and brought superb necklace of diamonds.
- The day of ball arrived. Matilda was a great success. She was prettiest of all elegant, gracious, smiling and full of joys.
- She danced with enthusiasm, intoxicated with pleasure.
- After returning from the party to her home she removed the wraps from her shoulders before the glass for a find view of herself in her glory.
- Suddenly she uttered a cry. Her necklace was not around her neck.
- They searched for the necklace everywhere in the folds of the dress, in the clock, in pockets, in the street, in the cab but didn't found it.
- After loosing all hopes after a week they purchased exactly like the one the had lost, for thirty-six thousand.
- They possessed eighteen thousand francs and borrowed the rest.
  And returned the necklace to Mme Forestier.
- This leads them to horrible life of frightful debt, changed their lodgings, done odious work.
- The husband worked evenings, day and for maximum time and this life lasted up to ten years.
- At the end of then years, they had restored all.

CHARACTERS:

Mathilde Loisel

- The protagonist of the story.
- Mathilde has been blessed with physical beauty but not with the affluent lifestyle she yearns for, and she feels deeply discontented with her lot in life.
- When she prepares to attend a fancy party, she borrows a diamond necklace from her friend Madame Forestier, then loses the necklace and must work for ten years to pay off a replacement.
- Her one night of radiance cost her and Monsieur Loisel any chance for future happiness.

Monsieur Loisel

- Mathilde's husband.
- Monsieur Loisel is content with the small pleasures of his life but does his best to appease Mathilde's demands and assuage her complaints.
- He loves Mathilde immensely but does not truly understand her, and he seems to underestimate the depth of her unhappiness.
- When Mathilde loses the necklace, Monsieur Loisel sacrifices his own future to help her repay the debt.
- He pays dearly for something he had never wanted in the first place.

Madame Forestier

- Mathilde's wealthy friend.
- Madame Forestier treats Mathilde kindly, but Mathilde is bitterly jealous of Madame Forestier's wealth, and the kindness pains her.

- Madame Forestier lends Mathilde the necklace for the party and does not inspect it when Mathilde returns it.
- She is horrified to realize that Mathilde has wasted her life trying to pay for a replacement necklace, when the original necklace had actually been worth nothing.

EXTRACT BASED QUESTIONS

Read the following extracts carefully and answer the questions that follow.

Question 1.

One evening her husband returned elated bearing in his hand a large envelope. 'Here', he said, "here is something for you."

(a) Why was the husband elated?
(b) What was the reaction from 'you'?
(c) Find the word from the extract that means the same as 'wrapper'.
(d) What is the antonym of 'elated'?

Answer:

(a) The husband was elated as he brought home an invite to the Minister's residence. He knew it would make his wife happy.
(b) 'You' or his wife, unexpectedly, was not the least happy and she made her displeasure very obvious.
(c) 'Envelope' means the same as 'wrapper' from the extract.
(d) Its antonym is 'sad'.

Question 2.

He threw around her shoulders that modest wraps they had carried whose poverty clashed with the elegance of the ball costume. She wished to hurry away…

(a) What precedes these fines?
(b) 'She' wished to hurry away. Why?
(c) Which word in the given extract is a synonym of 'not expensive'?
(d) What is the opposite of 'poverty'?

Answer:

(a) These lines follows Matilda's success at the ball where she was idolised. Her beauty and elegance was praised by everyone.
(b) She, 'Matilda' did not wish to shatter the illusion of her grandeur that she had so successfully managed to convey others by putting on such a shabby wrap. So, she wished to hurry away to escape the notice of the rich women.
(c) 'Modest' is the synonym of 'not expensive' from the extract.
(d) Its opposite is 'affluence'.

ASSIGNMENT

SHORT ANSWER TYPE QUESTIONS

Q1) What kind of a person is Mme Loisel — why is she always unhappy?

Q2) What kind of a person is her husband?
Q3) What fresh problem now disturbs Mme Loisel?
Q4) How is the problem solved?
Q5) What do M. and Mme Loisel do next?
Q6) How do they replace the necklace?

LONG ANSWER TYPE QUESTIONS

Q1. What was the cause of Matilda's ruin? How could she have avoided it?
Q2. If you were caught in a situation like this, how would you have dealt with it?
Q3.The course of the Loisels' life changed due to the necklace. Comment.
Q4. What would have happened to Matilda if she had confessed to her friend that she had lost her necklace?

Class 10

Study Notes 14

Subject Hindi

Topic Patjhar main tutti pattiyan

पतझर की टूटी पत्तियाँ पाठ सार

- लेखक ने प्रस्तुत पाठ में जो प्रसंग प्रस्तुत किए हैं, उनमें पहले प्रसंग (गिन्नी का सोना) जीवन में अपने लिए सुख-साधन जुटाने वालों से नहीं बल्कि उन लोगो से परिचित करवाता है जो इस संसार को सब के लिए जीने और रहने योग्य बनाए हुए हैं।

- लेखक कहते हैं कि शुद्ध सोने में और सोने के सिक्के में बहुत अधिक फर्क होता है, सोने के सिक्के में थोड़ा-सा ताँबा मिलाया जाता है, जिस कारण अधिक चमक आ जाती है और यह अधिक मज़बूत भी होता है। औरतें अकसर उन्हीं सोने के सिक्कों के गहनें बनवाती हैं। लेखक कहते हैं कि किसी व्यक्ति का जो उच्च चरित्र होता है वह भी शुद्ध सोने की तरह होता है उसमें कोई मिलावट नहीं होती। कुछ लोग ऐसे भी हैं जो अपने चरित्र में ताँबा अर्थात मिलावटी व्यवहार मिला देते हैं, उन्ही लोगों को सभी लोग व्यावहारिक आदर्शवादी कह कर उनका गुणगान करते हैं। लेखक हम सभी को ये बताना चाहते हैं कि हमें यह नहीं भूलना चाहिए कि वर्णन कभी भी आदर्शों का नहीं होता, बल्कि आपके व्यवहार का होता है। कुछ लोग कहते हैं कि गाँधी जी भी व्यावहारिक आदर्शवादियों में से एक थे। यदि गाँधी जी अपने आदर्शो को महत्त्व नहीं देते तो पूरा देश उनके साथ हर समय कंधे-से-कन्धा मिला कर खड़ा न होता। जो लोग केवल अपने व्यवहार पर ही ध्यान देते हैं, केवल वैज्ञानिक ढंग से ही सोचते हैं, वे व्यवहारवादी लोग कहे जाते हैं और ये लोग हमेशा चौकाने रहते हैं कि कहीं इनसे कोई ऐसा काम न हो जाए जिसके कारण इनको हानि उठानी पड़े। सबसे महत्पूर्ण बात तो यह है कि खुद भी तरक्की करो और अपने साथ-साथ दूसरों को भी आगे ले चलो और ये काम हमेशा से ही आदर्शो को सबसे आगे रखने वाले लोगो ने किया है। हमारे समाज में अगर हमेशा रहने वाले कई मूल्य बचे हैं तो वो सिर्फ आदर्शवादी लोगो के कारण ही बच पाए हैं।

- दूसरा प्रसंग (झेन की देन) बौद्ध दर्शन में वर्णित ध्यान की उस पद्धति की याद दिलाता है जिसके कारण जापान के लोग आज भी अपनी व्यस्ततम दिन भर के कामों के बीच भी कुछ चैन भरे या सुकून के पल हासिल कर ही लेते हैं।

- लेखक ने जब अपने जापानी मित्र से वहाँ की सबसे खतरनाक बीमारी के बारे में पूछा तो उसने कहा कि जापान के लोगों को सबसे अधिक मानसिक बीमारी का शिकार होना पड़ता है। लेखक के इस मानसिक बिमारी की वजह पूछने पर लेखक के मित्र ने उत्तर दिया कि उनके जीवन की तेजी औरों से अधिक है। जापान में कोई आराम से नहीं चलता, बल्कि दौड़ता है अर्थात सब एक दूसरे से आगे जाने की सोच रखते हैं। कोई भी व्यक्ति आराम से बात नहीं करता, वे लोग केवल काम की ही बात करते हैं। जापान के लोग अमेरिका से

प्रतियोगिता में लग गए जिसके कारण वे एक महीने में पूरा होने वाला काम एक दिन में ही ख़त्म करने की कोशिश करने लगे। यही कारण है कि जापान के लोगो में मानसिक बिमारी फैल गई है।

- लेखक कहते हैं कि एक शाम को उनका जापानी दोस्त उन्हें चा-नो-यू अर्थात जापान के चाय पीने के एक विशेष आयोजन में ले गया। लेखक और उनका मित्र चाय पिने के आयोजन के लिए जहाँ गए थे वह एक छः मंजिल की इमारत थी। उसकी छत पर एक सरकने वाली दीवार थी जिस पर चित्रकारी की गई थी और पत्तों की एक कुटिया बनी हुई थी जिसमें जमीन पर चटाई बिछी हुई थी। उसके बाहर बैडोल-सा मिट्टी का एक पानी भरा हुआ बरतन था। लेखक और उनके मित्र ने उस पानी से हाथ-पाँव धोकर अंदर गए। अंदर चाय देने वाला एक व्यक्ति था जिसे चानीज कहा जाता है। उन्हें देखकर वह खड़ा हो गया। कमर झुका कर उसने उन्हें प्रणाम किया और बैठने की जगह दिखाई। अँगीठी को जलाया और उस पर चाय बनाने वाला बरतन रख दिया। वह साथ वाले कमरे में गया और कुछ बरतन ले कर आया। फिर तौलिए से बरतन साफ किए।

- ये सारा काम उस व्यक्ति ने बड़े ही सलीके से पूरा किया और उसकी हर एक मुद्रा या काम करने के ढंग से लगता था कि जैसे जयजयवंती नाम के राग की धुन गूँज रही हो। उस जगह का वातावरण इतना अधिक शांत था कि चाय बनाने वाले बरतन में उबलते हुए पानी की आवाज़ें तक सुनाई दे रही थी।

- लेखक कहते हैं कि चाय बनाने वाले ने चाय तैयार की और फिर उन प्यालों को लेखक और उनके मित्रों के सामने रख दिया। जापान में इस चाय समारोह की सबसे खास बात शांति होती है। इसलिए वहाँ तीन से ज्यादा व्यक्तियों को नहीं माना जाता। वे करीब डेढ़ घंटे तक प्यालों से चाय को धीरे-धीरे पीते रहे। पहले दस-पंद्रह मिनट तो लेखक को बहुत परेशानी हुई। लेकिन धीरे -धीरे लेखक ने महसूस किया कि उनके दिमाग की रफ़्तार कम होने लेगी है। और कुछ समय बाद तो लगा कि दिमाग बिलकुल बंद ही हो गया है।

- लेखक हमें बताना चाहते हैं कि हम लोग या तो बीते हुए दिनों में रहते हैं या आने वाले दिनों में। जबकि दोनों ही समय झूठे होते हैं। जो समय अभी चल रहा है वही सच है। और यह समय कभी न ख़त्म होने वाला और बहुत अधिक फैला हुआ है। लेखक कहते हैं कि जीना किसे कहते यह उनको चाय समारोह वाले दिन मालूम हुआ। जापानियों को ध्यान लगाने की यह परंपरा विरासत में देन में मिली है।

नीचे दिए गए शब्दों का वाक्यों में प्रयोग किजिए –

व्यावहारिकता, आदर्श, सूझबूझ, विलक्षण, शाश्वत

(क) व्यावहारिकता – दादाजी की व्यावहारिकता सीखने योग्य है।

(ख) आदर्श – आज के युग में गाँधी जैसे आदर्शवादिता की ज़रूरत है।

(ग) सूझबूझ – उसकी सूझबूझ ने आज मेरी जान बचाई।

(घ) विलक्षण – महेश की अपने विषय में विलक्षण प्रतिभा है।

(ङ) शाश्वत – सत्य, अहिंसा मानव जीवन के शाश्वत नियम हैं।

'लाभ-हानि का विग्रह इस प्रकार होगा – लाभ और हानि

यहाँ द्वंद्व समास है जिसमें दोनों पद प्रधान होते हैं। दोनों पदों के बीच योजक शब्द का लोप करने के लिए योजक चिह्न लगाया जाता है। नीचे दिए गए द्वंद्व समास का विग्रह कीजिए –

(क)

माता-पिता

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(ख)

पाप-पुण्य

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(ग)

सुख-दुख

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(घ)

रात-दिन

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(ङ)

अन्न-जल

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घर-बाहर

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(छ)

देश-विदेश

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.....

पाठ्य सामग्री

सौहार्दं प्रकृतेः शोभा

प्रश्न 1.

एकपदेन उत्तरं लिखत-

(क) वनराजः कैः दुरवस्था प्राप्तः?

उत्तराणि:

तुच्छजीवैः

(ख) क: वातावरणं कर्कशध्वनिना आकुलीकरोति?

उत्तराणि:

काक:

(ग) काकचेष्टः विद्यार्थी कीदृशः छात्रः मन्यते?

उत्तराणि:

आदर्शः

(घ) क: आत्मानं बलशाली, विशालकायः, पराक्रमी च कथयति?

उत्तराणि:

गजः

(ङ) बकः कीदृशान् मीनान् क्रूरतया भक्षयति?

उत्तराणि:

वराकान्

प्रश्न 2.

अधोलिखितप्रश्नानामुत्तराणि पूर्णवाक्येन लिखत-

(क) नि:संशयं कः कृतान्तः मन्यते?

उत्तराणि:

नि:संशयं सः एव कृतान्तः मन्यते यः पार्थिवरूपेण सदा परैः वित्रस्तान् पीड्यमानान् जीवान् न रक्षति।

(ख) बकः वन्यजन्तूनां रक्षोपायान् कथं चिन्तयितुं कथयति?

उत्तराणि:

बक: वन्यजन्तूनां रक्षोपायान् शीतले जले बहुकालपर्यन्तं ध्यानमग्नः स्थितप्रज्ञः इव स्थित्वा चिन्तयितुं कथयति।

(ग) अन्ते प्रकृतिमाता प्रविश्य सर्वप्रथम किं वदति?

उत्तराणि:

अन्ते प्रकृतिमाता प्रविश्य सर्वप्रथमं वदति- “भो: भो:प्राणिनः। यूयम् सर्वे एव में सन्तति।। कथं मित्रः कलह कुर्वन्ति। वस्तुतः सर्वे वन्यजीवनः अन्योन्याश्रिताः”।

(घ) यदि राजा सम्यक् न भवति तदा प्रजा कथं विप्लवेत्?

उत्तराणि:

यदि राजा सम्यक् न भवति तदा प्रजा अकर्णधारा जलधौ नौः इव इह विप्लवेत्।

(ङ) मयूरः कथं नृत्यमुद्रायां स्थितः भवति?

उत्तराणि:

मयूरः पिच्छानुद्घाट्य नृत्यमुद्रायां स्थितः भवति।

(च) अन्ते सर्वे मिलित्वा कस्य राज्याभिषेकाय तत्पराः भवति?

उत्तराणि:

अन्ते सर्वे मिलित्वा उलूक राज्याभिषेकाय तत्पराः भवति।

(छ) अस्मिन्नटिके कति पात्राणि सन्ति?

उत्तराणि:

अस्मिन्नाटके द्वादश पात्राणि सन्ति।

प्रश्न 3.

रेखांकितपदमाधृत्या प्रश्ननिर्माणं कुरुत-

(क) सिंह वानराभ्यां स्वरक्षायाम् असमर्थः एवासीत्।

उत्तराणि:

कस्याम्

(ख) गजः वन्यपशून् तुदन्तं शुण्डेन पोथयित्वा मारयति।

उत्तराणि:

केन

(ग) वानरः आत्मानं वनराजपदाय योग्यः मन्यते।

उत्तराणि:

कस्मै किमर्थम्

(घ) मयूरस्य नृत्यं प्रकृतेः आराधना।

उत्तराणि:

कस्याः

(ङ) सर्वे प्रकृतिमातरं प्रणमन्ति।

उत्तराणि:

काम्

प्रश्न 4.

शुद्धकथनानां समक्षम् आम् अशुद्धकथनानां च समक्षं न इति लिखत-

(क) सिंहः आत्मानं तुदन्तं वानरं मारयति।

उत्तराणि:

न

(ख) का-का इति बकस्य ध्वनिः भवति।

उत्तराणि:

न

(ग) काकपिकयोः वर्णः कृष्णः भवति।

उत्तराणि:

आम्

(घ) गजः लघुकायः, निर्बलः च भवति।

उत्तराणि:

न

(ङ) मयूरः बकस्य कारणात् पक्षिकुलम् अवमानितं मन्यते।

उत्तराणि:

आम्

(च) अन्योन्यसहयोगेन प्राणिनाम् लाभः जायते।

उत्तराणि:

आम्

प्रश्न 5.

मञ्जूषातः समुचितं पदं चित्वा रिक्तस्थानानि पूरयत-

स्थितप्रज्ञः, यथासमयम्, मेध्यामध्यभक्षकः, अहिभुक्,
आत्मश्लाघाहीनः, पिकः

(क) काकः _____ भवति।

उत्तराणि:

मेध्यामध्यभक्षकः

(ख) _____ परभृत् अपि कथ्यते।

उत्तराणि:

पिकः

(ग) बकः अविचल: _____ इव तिष्ठति।

उत्तराणि:

स्थितिप्रज्ञः

(घ) मयूरः _____ इति नाम्नाऽपि ज्ञायते।

उत्तराणि:

अहिभुक्

(ङ) उलूकः _____ पदनिर्लिप्त चासीत्।

उत्तराणि:

आत्मश्लाघाहीनः

(च) सर्वेषामेव महत्त्वं विद्यते _____।

उत्तराणि:

यथासमयम्

प्रश्न 6.

वाच्यपरिवर्तनं कृत्वा लिखत-

उदाहरणम्-

क्रुद्धः सिंहः इतस्ततः धावति गर्जति च।

कुद्धेन सिंहेन इतस्ततः धाव्यते गर्यते च।

(क) त्वया सत्यं कथितम्।

(ख) सिंहः सर्वजन्तून् पृच्छति।

(ग) काक: पिकस्य संततिं पालयति।

(घ) मयूरः विधात्रा एव पक्षिराजः वनराजः वा कृतः।

(ङ) सर्वैः खगैः कोऽपि खगः एवं वनराजः कर्तुमिष्यते स्म।

(च) सर्वे मिलित्वा प्रकृतिसौन्दर्याय प्रयत्नं कुर्वन्तु।

उत्तराणि:

(क) त्वम् सत्यं कथितवान्।

(ख) सिंहेन सर्वजन्तवः पृच्छयन्ते।

(ग) काकेन पिकस्य संततिः पाल्यते।

(घ) मयूर विधाता एवं पक्षिराज वनराज वा कृतवान्।

(ङ) सर्वे खगाः कमपि खगम् एवं वनराजं कर्तुं इच्छन्ति स्म।

(च) सर्वैः मिलित्वा प्रकृतिसौन्दर्याय प्रयत्नः क्रियताम्।

प्रश्न 7.

समासविग्रहं समस्तपदं वा लिखतु-

(क) तुच्छजीवैः _____।

(ख) वृक्षोपरि _____।

(ग) पक्षिणां सम्राट् _____।

(घ) स्थिता प्रज्ञा यस्य सः _____।

(ङ) अपूर्वम् _____।

(च) व्याघ्रचित्रको _____।

उत्तराणि:

(क) तुच्छेः जीवै:/तुच्छः जीवः, तैः

(ख) वृक्षस्य उपरि

(ग) पक्षिसम्राट्

(घ) स्थिप्रज्ञः

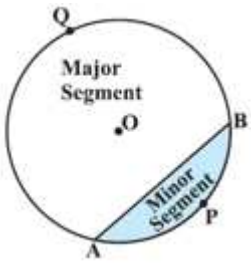
(ङ) न पूर्वम्

(च) व्याघ्रः च चित्रकः च

Chapter-12

Area Related to Circles

- **Circle:** A circle is the locus of a point which moves in a plane in such a way that its distance from a fixed point always remains the same. The fixed point is called the center and given constant distance is known as the radius of the circle.
- **Segment of a Circle:** The portion (or part) of a circular region enclosed between a chord and the corresponding arc is called a segment of the circle. In adjacent fig. APB is minor segment and AQB is major segment.

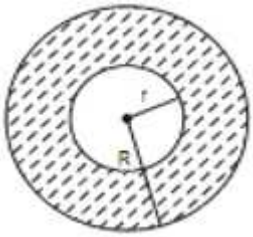


- **Sector of a Circle:** The portion (or part) of the circular region enclosed by the two radii and the corresponding arc is called a sector of the circle. In adjacent figure OAPB is minor sector and OAQB is the major sector.

- Area of circle = πr^2 where 'r' is the radius of the circle.
- Area of Semi circle = $\frac{\pi r^2}{2}$
- Area enclosed by two concentric circles

$= \pi(R^2 - r^2)$
$= \pi(R + r)(R - r); R > r$

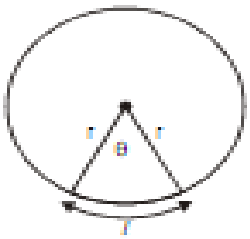
where ‘R’ and ‘r’ are radii of two concentric circles.



- The arc length ‘l’ of a sector of angle $'\theta'$ in a circle of radius ‘r’ is given by

$$l = \frac{\theta}{360^o} \times 2\pi r$$

$$l = \frac{\theta}{180^o} \times 2\pi r$$



- If the arc subtends an angle θ, then area of the corresponding sector is $\frac{\theta}{360^o} \times \pi r^2$

- Angle described by minute hand in 60 minutes = 360°. Angle described by minute hand in 1 minute $= \left(\frac{360^o}{60}\right) = 6^o$

EAST POINT SCHOOL

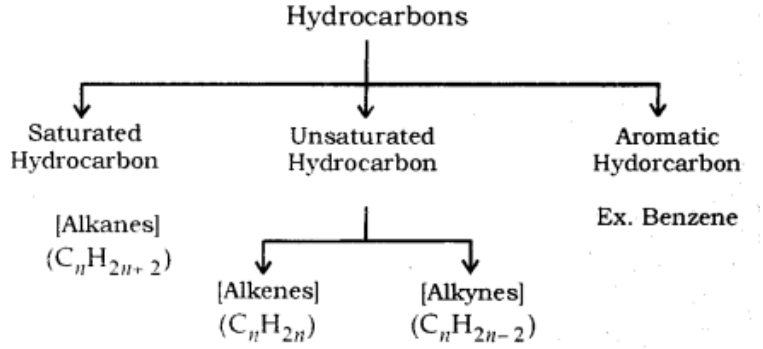
CARBON AND ITS COMPOUND

NOTES

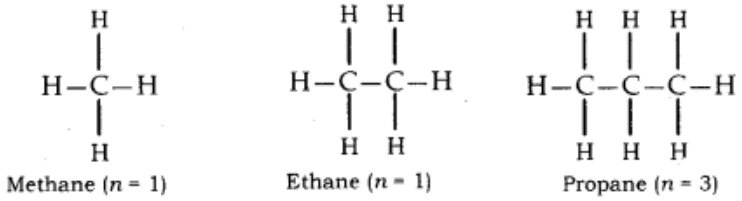
CLASS X

20/08/2021

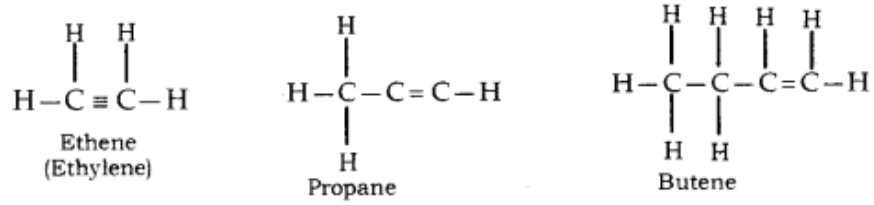
Hydrocarbons: Compounds of carbon and hydrogen are known as hydrocarbons.
For example; Methane (CH_4), Ethane (C_2H_6), Ethene (C_2H_4), Ethyne (C_2H_2) etc.



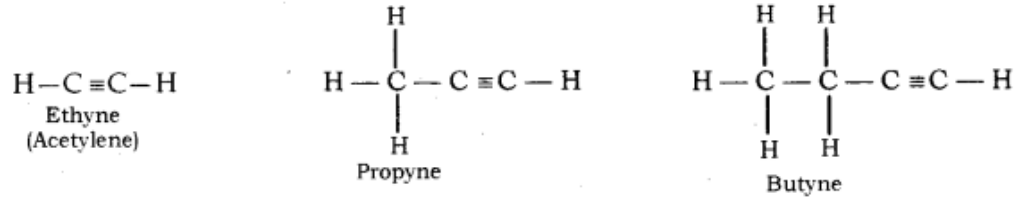
Saturated Hydrocarbon (Alkanes): General formula is C_nH_{2n+2}.
n = number of carbon atoms.
In this, the carbon atoms are connected by only a single bond.
For example; Methane (CH_4), Ethane (C_2H_6) etc.



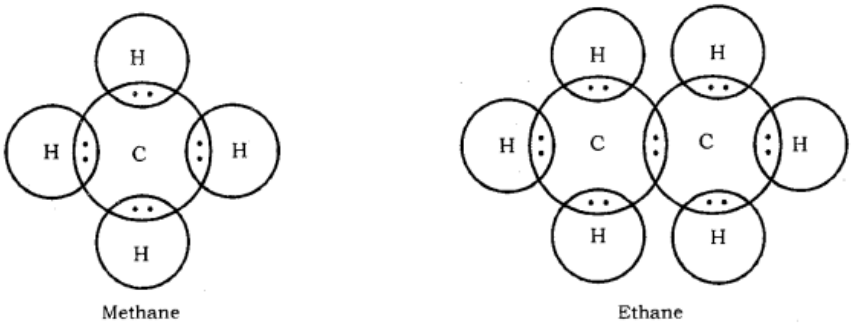
Unsaturated Hydrocarbons
Alkenes: General formula is C_nH_{2n}, where n = number of carbon atoms.
In this, the two carbon atoms are connected by double bond.



Alkynes: General formula is C_nH_{2n-2}, where n = number of carbon atoms. In this, the two carbon atoms are connected by triple bond.



Electron Dot Structure of Hydrocarbons



Isomerism: Compounds having the same molecular formula but different structural formula and properties are known as Isomers and this phenomenon is known as Isomerism.

Structural Isomerism: Compounds having the same molecular formula but different structures are called Structural isomers. Example: Isomers of butane (C_4H_{10})

$CH_3—CH_2—CH_2—CH_3$
n-Butane

$CH_3—CH(CH_3)—CH_3$
2-methylpropane (Isobutane)

Isomers of Pentane (C_5H_{12}) :

(*i*) $CH_3—CH_2—CH_2—CH_2—CH_3$
n-Pentane

(*ii*) $CH_3—CH(CH_3)—CH_2—CH_3$
2-methylbutane (Isopentane)

Isomers of Hexane (C_6H_{14}) :

(*i*) $CH_3—CH_2—CH_2—CH_2—CH_2—CH_3$
n-Hexane

(*ii*) $CH_3—CH(CH_3)—CH_2—CH_2—CH_2—CH_3$
2-methylpentane (Isohexane)

(*iii*) $CH_3—CH_2—CH(CH_3)—CH_2—CH_3$
3-methylpentane

(*iv*) $CH_3—C(CH_3)_2—CH_2—CH_3$
2, 2-dimethylbutane

East Point School
Study Notes
Class- 10th (2021-22)
Biology

CHAPTER 6- LIFE PROCESSES

Respiration –

Types of respiration, aerobic and anaerobic respiration, human respiratory system, respiration in plants.

Respiration: The process by which a living being utilises the food to get energy, is called respiration. Respiration is an oxidation reaction in which carbohydrate is oxidized to produce energy. Mitochondria is the site of respiration and the energy released is stored in the form of ATP (adenosine triphosphate). ATP is stored in mitochondria and is released as per need.

Steps of respiration:

- **Breaking down of glucose into pyruvate:** This step happens in the cytoplasm. Glucose molecule is broken down into pyruvic acid. Glucose molecule is composed of 6 carbon atoms, while pyruvic acid is composed of 3 carbon atoms.
- **Fate of Pyruvic Acid:** Further breaking down of pyruvic acid takes place in mitochondria and the molecules formed depend on the type of respiration in a particular organism. Respiration is of two types, viz. aerobic respiration and anaerobic respiration.
- **Respiration involves**
  - Gaseous exchange: Intake of oxygen from the atmosphere and release of CO_2 → Breathing.
  - Breakdown of simple food in order to release energy inside the cell → Cellular respiration

Types of Respiration –

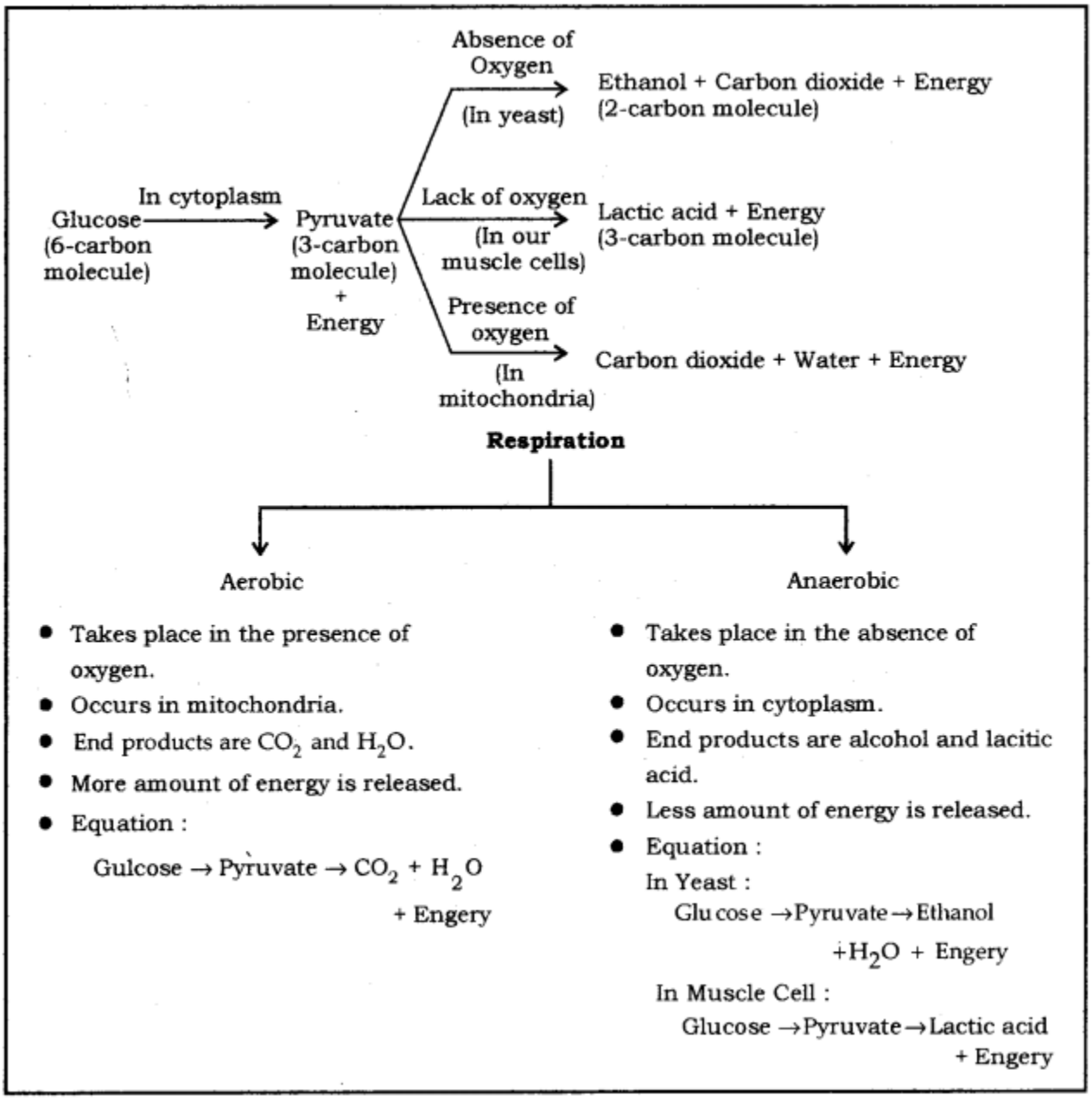
- **Aerobic respiration:** This type of respiration happens in the presence of oxygen. Pyruvic acid is converted into carbon dioxide. Energy is released and water molecule is also formed at the end of this process.
- **Anaerobic respiration:** This type of respiration happens in the absence of oxygen. Pyruvic acid is either converted into ethyl alcohol or lactic acid. Ethyl alcohol is usually formed in case of anaerobic respiration in microbes, like yeast or bacteria. Lactic acid is formed in some microbes as well as in the muscle cells.
  - Glucose (6 carbon molecule) → Pyruvate (3 carbon molecules) + Energy
  - Pyruvate (In yeast, lack of O_2) → Ethyl alcohol + Carbon dioxide + Energy
  - Pyruvate (In muscles, lack of O_2) → Lactic Acid + Energy
  - Pyruvate (In mitochondria; the presence of O_2) → Carbon dioxide + Water + Energy

The equations for the above reactions can be written as follows:

$$\underset{\text{Glucose}}{C_6H_{12}O_6} \xrightarrow{\text{presence of } O_2} 6CO_2 + 6H_2O + \text{Energy}$$

$$\underset{\text{Glucose}}{C_6H_{12}O_6} \xrightarrow{\text{absence of } O_2} \underset{\text{Ethanol}}{C_2H_5OH} + CO_2$$

$$\underset{\text{Glucose}}{C_6H_{12}O_6} \xrightarrow{\text{lack of } O_2} \underset{\text{Lactic acid}}{CH_3CHOHCOOH}$$



Pain in leg muscles while running:

- When someone runs too fast, he may experience throbbing pain in the leg muscles. This happens because of anaerobic respiration taking place in the muscles.
- During running, the energy demand from the muscle cells increases. This is compensated by anaerobic respiration and lactic acid is formed in the process.
- The deposition of lactic acid causes pain in the leg muscles. The pain subsides after taking rest for some time.

Exchange of gases:

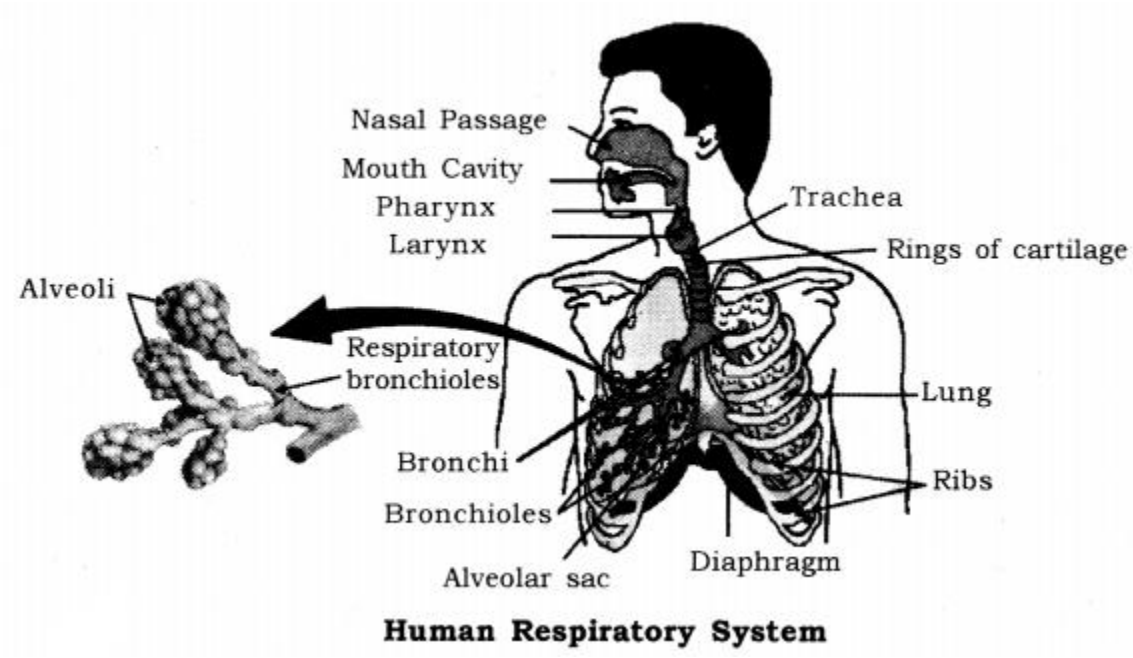
- For aerobic respiration, organisms need a continuous supply of oxygen, and carbon dioxide produced during the process needs to be removed from the body.
- Different organisms use different methods for the intake of oxygen and expulsion of carbon dioxide.
- Diffusion is the method which is utilized by unicellular and some simple organisms for this purpose.
- In plants also, diffusion is utilized for exchange of gases.
- In complex animals, respiratory system does the job of exchange of gases.
- Gills are the respiratory organs for fishes. Fishes take in oxygen which is dissolved in water through gills.
- Since, availability of oxygen is less in the aquatic environment, so the breathing rate of aquatic organisms is faster.
- Insects have a system of spiracles and trachease which is used for taking in oxygen.
- Terrestrial organisms have developed lungs for exchange of gases.
- Availability of oxygen is not a problem in the terrestrial environment so breathing rate is slower as compared to what it is in fishes.

Terrestrial organisms: Use atmospheric oxygen for respiration.
Aquatic organisms: Use dissolve oxygen for respiration.

Human respiratory system –The human respiratory system is composed of a pair of lungs. These are attached to a system of tubes which open on the outside through the nostrils. Following are the main structures in the human respiratory system:

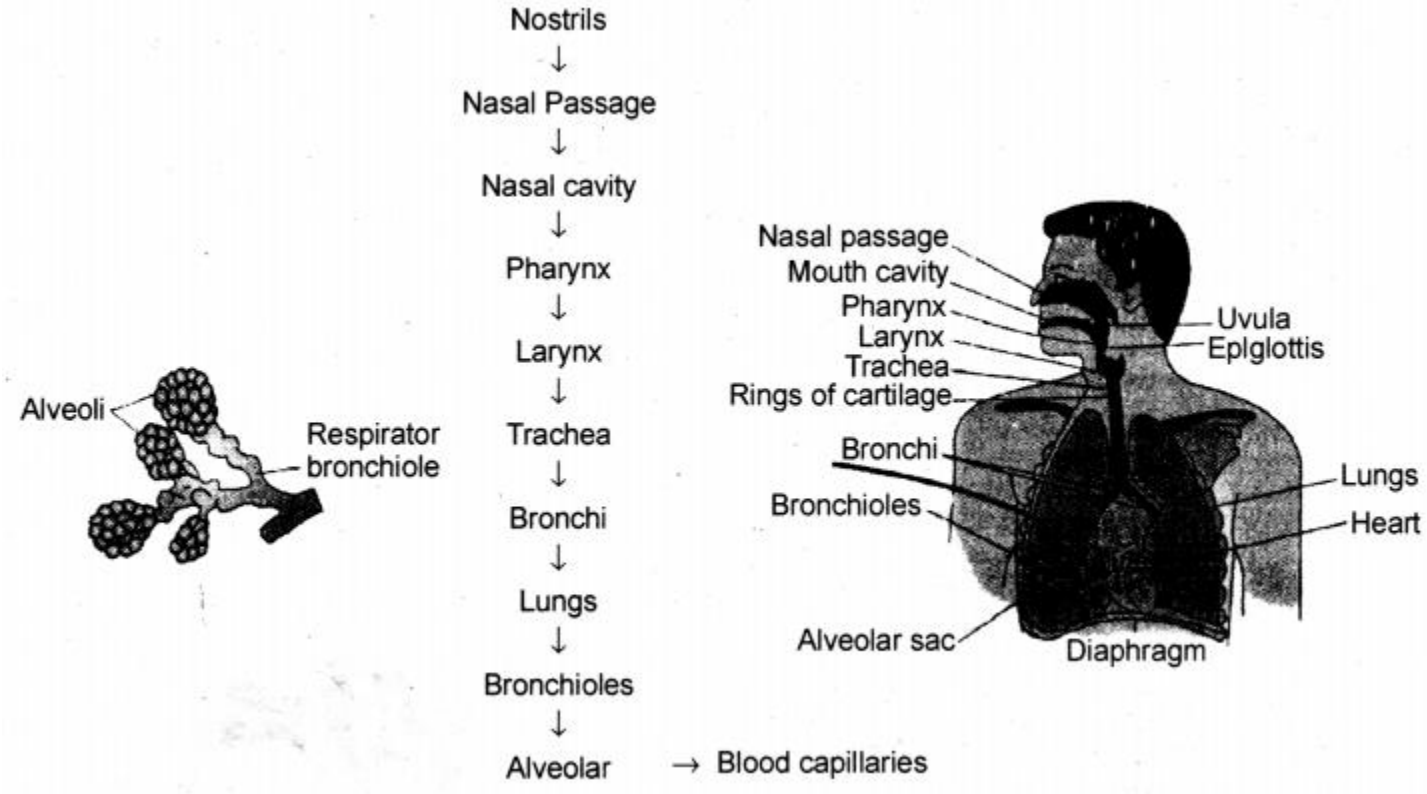
1. Nostrils: There are two nostrils which converge to form a nasal passage. The inner lining of the nostrils is lined by hair and remains wet due to mucus secretion. The mucus and the hair help in filtering the dust particles out from inhaled air. Further, air is warmed up when it enters the nasal passage.
2. Pharynx: It is a tube-like structure which continues after the nasal passage.
3. Larynx: This part comes after the pharynx. This is also called voice box.
4. Trachea: This is composed of rings of cartilage. Cartilaginous rings prevent the collapse of trachea in the absence of air.
5. Bronchi: A pair of bronchi comes out from the trachea, with one bronchus going to each lung.

6. Bronchioles: A bronchus divides into branches and sub-branches inside the lung.
7. Alveoli: These are air sacs at the end of bronchioles. The alveolus is composed of a very thin membrane and is the place where blood capillaries open. This is alveolus, where the oxygen mixes with the blood and carbon dioxide exits from the blood. The exchange of gases, in alveoli, takes place due to the pressure differential.



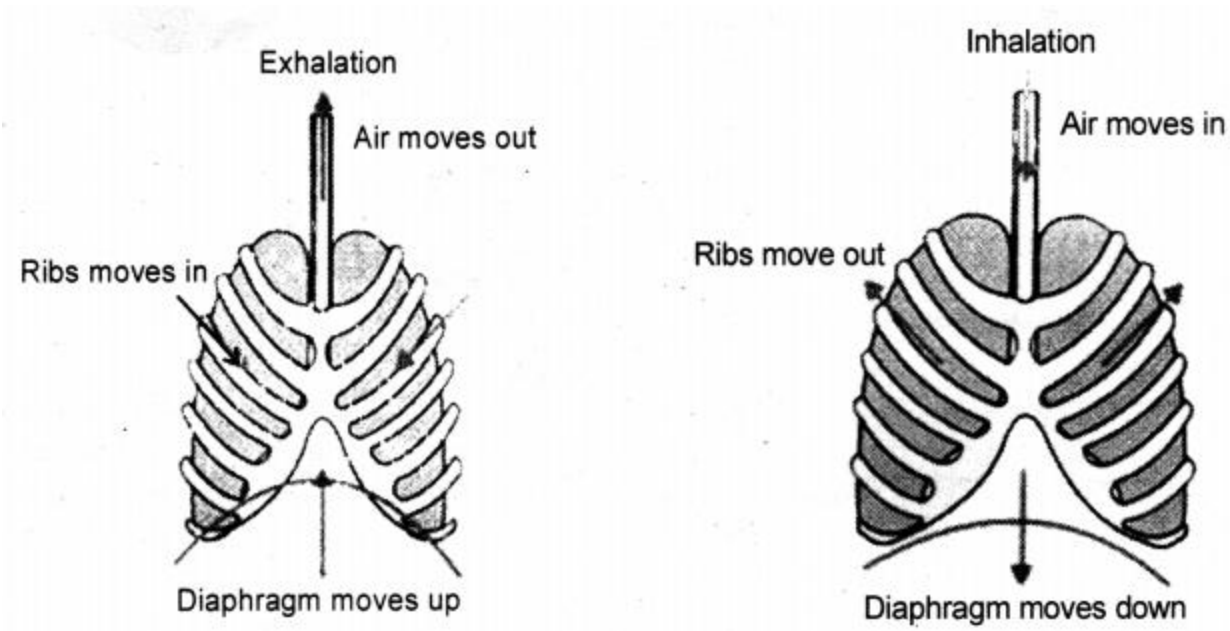
Human Respiratory System

Passage of air through the respiratory system in human beings:



Breathing Mechanism

- The breathing mechanism of lungs is controlled by the diaphragm and the intercostalis muscles.
- The diaphragm is a membrane which separates the thoracic chamber from the abdominal cavity.
- When the diaphragm moves down, the lungs expand and the air is inhaled.
- When the diaphragm moves up, the lungs contract and air are exhaled.



Mechanism of Breathing

Inhalation

- During inhalation, the thoracic cavity (chest cavity) expands
- Ribs lift upwards
- Diaphragm become flat in shape
- Volume of lungs increases and air enters the lungs

Exhalation

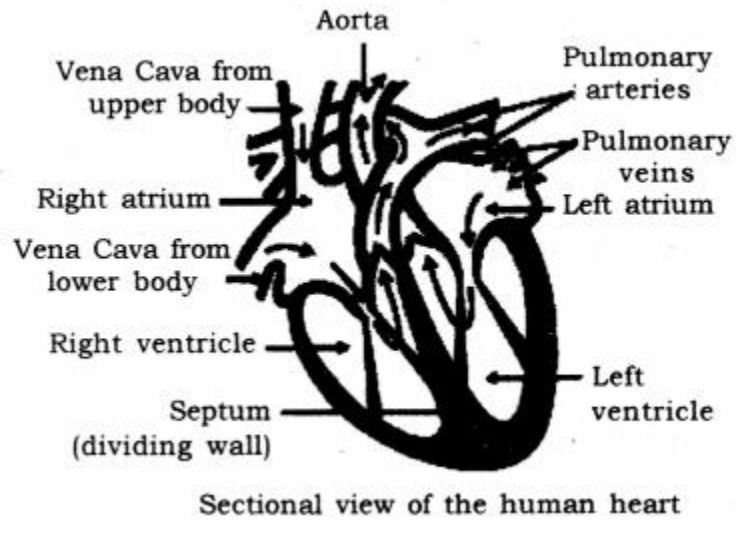
- Thoracic cavity contracts
- Ribs move downwards
- Diaphragm become dome shaped
- Volume of lungs decreases and air exits from the lungs.

Transportation –

Circulatory system of human being, transportation in plants. Human beings like other multicellular organism need a regular supply of foods, oxygen etc. This function is performed by a circulatory system or transport system.

Transportation in Human Beings: The circulatory system is responsible for transport of various substances in human beings. It is composed of the heart, arteries, veins and blood

capillaries. Blood plays the role of the carrier of substances.



Sectional view of the human heart

1. Heart: Heart is a muscular organ, which is composed of cardiac muscles.

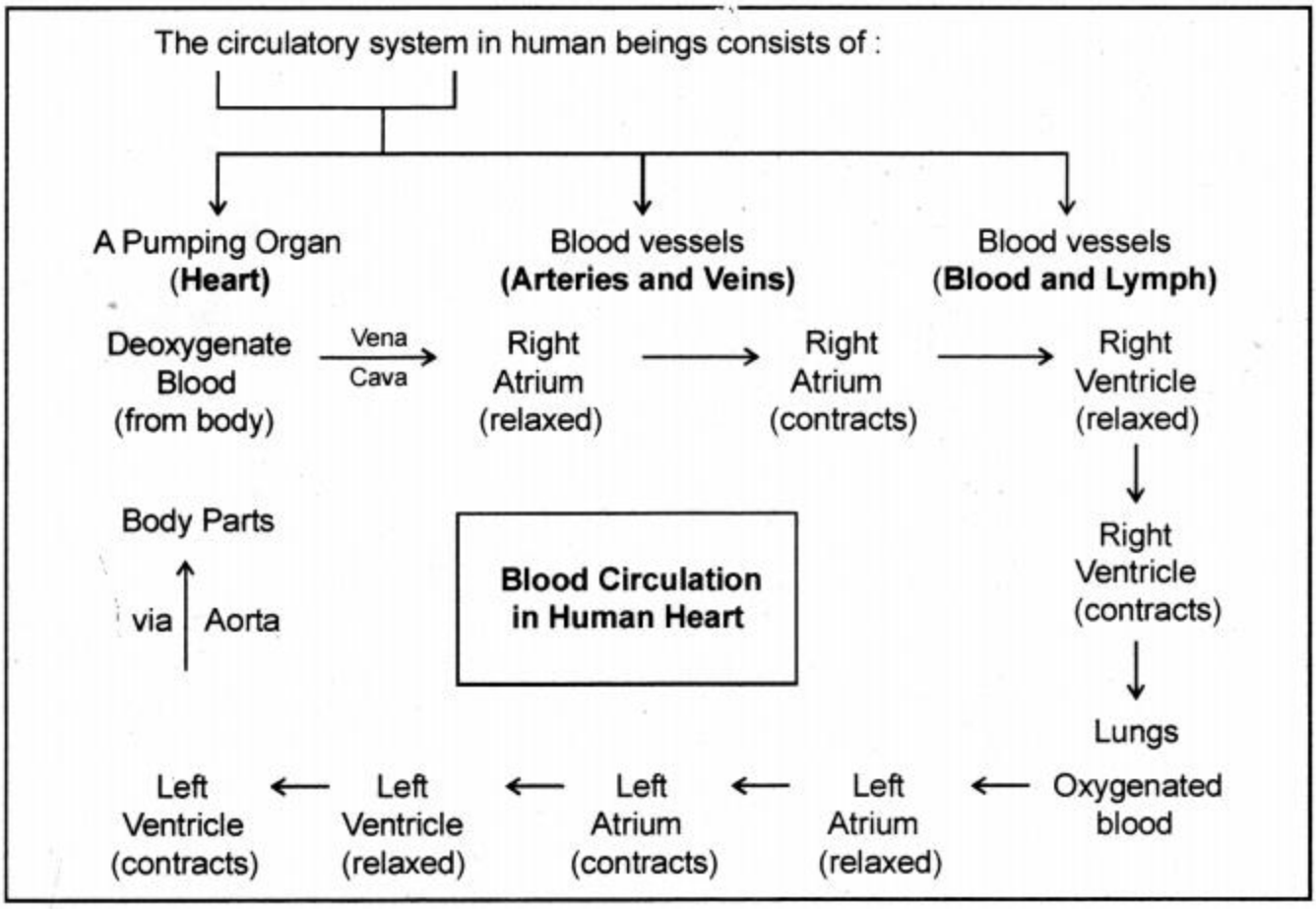
- It is so small that, it can fit inside an adult's wrist. The heart is a pumping organ which pumps the blood.
- The human heart is composed of four chambers, viz. right atrium, right ventricle, left ventricle and left atrium.
- Systole: Contraction of cardiac muscles is called systole.
- Diastole: Relaxation of cardiac muscles is called diastole.

2. Arteries:

- These are thick-walled blood vessels which carry oxygenated blood from the heart to different organs.
- Pulmonary arteries are exceptions because they carry deoxygenated blood from the heart to lungs, where oxygenation of blood takes place.

3. Veins:

- These are thin-walled blood vessels which carry deoxygenated blood from different organs to the heart, pulmonary veins are exceptions because they carry oxygenated blood from lungs to the heart.
- Valves are present in veins to prevent back flow of blood.



4. Capillaries: These are the blood vessels which have single-celled walls.

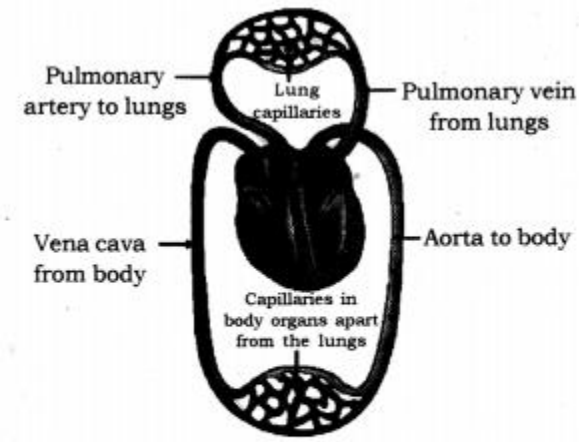
Blood: Blood is a connective tissue which plays the role of the carrier for various substances in the body. Blood is composed of 1. Plasma 2. Blood cells 3. Platelets.

- **Blood plasma:** Blood plasma is a pale coloured liquid which is mostly composed of water. Blood plasma forms the matrix of blood.
- **Bloods cells:** There are two types of blood cells, viz. Red Blood Cells (RBCs) and White Blood Cells (WBCs).
  (a) Red Blood Corpuscles (RBCs): These are of red colour because of the presence of haemoglobin which is a pigment. Haemoglobin readily combines with oxygen and carbon dioxide. The transport of oxygen happens through haemoglobin. Some part of carbon dioxide is also transported through haemoglobin.
  (b) White Blood Corpuscles (WBCs): These are of pale white colour. They play important role in the immunity.
- **Platelets:** Platelets are responsible for blood coagulation. Blood coagulation is a defense mechanism which prevents excess loss of blood, in case of an injury.

Lymph:

- Lymph is similar to blood but RBCs are absent in lymph.
- Lymph is formed from the fluid which leaks from blood capillaries and goes to the intercellular space in the tissues. This fluid is collected through lymph vessels and finally return to the blood capillaries.
- Lymph also plays an important role in the immune system.
- Lymph a yellowish fluids escape from the blood capillaries into the intercellular spaces contain less proteins than blood.
- Lymph flows from the tissues to the heart assisting in transportation and destroying germs.

Double circulation: In the human heart, blood passes through the heart twice in one cardiac cycle. This type of circulation is called double circulation. One complete heartbeat in which all the chambers of the heart contract and relax once is called cardiac cycle. The heart beats about 72 times per minute in a normal adult. In one cardiac cycle, the heart pumps out 70 mL blood and thus, about 4900 mL blood in a minute. Double circulation ensures complete segregation of oxygenated and deoxygenated blood which is necessary for optimum energy production in warm-blooded animals.

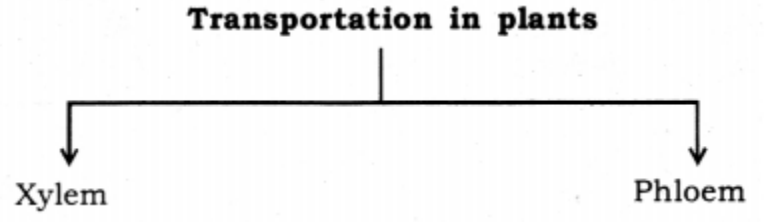


Schematic representation of transport and exchange of oxygen and carbon dioxide.

Transportation in plants: Plants have specialized vascular tissues for transportation of substances. There are two types of vascular tissues in plants.

- **Xylem:** Xylem is responsible for transportation of water and minerals. It is composed of trachids, xylem vessels, xylem parenchyma and xylem fibre. Tracheids and xylem vessels are the conducting elements. The xylem makes a continuous tube in plants which runs from roots to stem and right up to the veins of leaves.
- Carry water and minerals from the leaves to the other part of the plant.
- **Phloem:** Phloem is responsible for transportation of food. Phloem is composed of sieve tubes, companion cells, phloem parenchyma and bast fibers. Sieve tubes are the conducting elements in phloem.
- Carries product of photosynthesis from roots to other part of the plant.

Transportation in plants



Ascent of sap: The upward movement of water and minerals from roots to different plant parts is called ascent of sap. Many factors are at play in ascent of sap and it takes place in many steps. They are explained as follows :

- Root pressure: The walls of cells of root hairs are very thin. Water from soil enters the root hairs because of osmosis. Root pressure is responsible for movement of water up to the base of the stem.
- Capillary action: A very fine tube is called capillaiy, water, or any liquid, rises in the capillary because of physical forces and this phenomenon is called capillary action. Water, in stem, rises up to some height because of capillaiy action.
- Adhesion-cohesion of water molecules: Water molecules make a continuous column in the xylem because of forces of adhesion and cohesion among the molecules.
- Transpiration pull: Loss of water vapour through stomata and lenticels, in plants, is called transpiration. Transpiration through stomata creates vacuum which creates a suction, called transpiration pull. The transpiration pull sucks the water column from the xylem tubes and thus, water is able to rise to great heights in even the tallest plants.
- **Transport of food:** Transport of food in plants happens because of utilization of energy. Thus, unlike the transport through xylem, it is a form of active transport. Moreover, the flow of substances through phloem takes place in both directions, i.e., it is a two-way traffic in phloem.
  Transpiration is the process of loss of water as vapour from aerial parts of the plant.

Functions

- Absorption and upward movement of water and minerals by creating pull.
- Helps in temperature regulation in plant.

Transport of food from leaves (food factory) to different parts of the plant is called Translocation.

EAST POINT SCHOOL

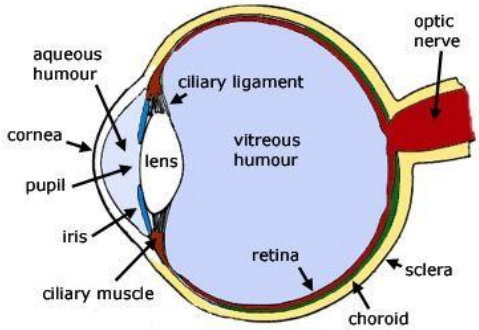
Class-10-Notes-Human Eye and Colorful World

THE HUMAN EYE

The human eye is one of the most valuable and sensitive sense organs. It enables us to see the wonderful world and the colours around us

The main parts of the human eye include:

Cornea: transparent tissue covering the front of the eye that lets light travel through
Iris: a ring of muscles in the colored part of the eye that controls the size of the pupil
Pupil: an opening in the center of the iris that changes size to control how much light is entering the eye.
Sclera: the white part of the eye that is composed of fibrous tissue that protects the inner workings of the eye
Lens: located directly behind the pupil, it focuses light rays onto the retina
Retina: membrane at the back of the eye that changes light into nerve signals
Optic Nerve: a bundle of nerve fibers that carries messages from the eyes to the brain
Macula
Choroid: The choroid is a layer of blood vessels between the retina and sclera; it supplies blood to the retina.
Ciliary muscle: it changes the shape of the lens - (this is called accommodation). It relaxes to flatten the lens for distance vision; for close work it contracts rounding out the lens.
Aqueous homour: A water like fluid, produced by the ciliary body, it fills the front of the eye between the lens and cornea and provides the cornea and lens with oxygen and nutrients
Vitreous homour: The space between the lens and retina filled with the gel like Vitreous Humor.



WORKING OF HUMAN EYE

Light enters the eye through a thin membrane called the cornea. It forms the transparent bulge on the front surface of the eyeball. The eyeball is approximately spherical in shape with a diameter of about 2.3 cm.

The crystalline lens merely provides the finer adjustment of focal length

required to focus objects at different distances on the retina.

Iris behind the cornea. Iris is a dark muscular diaphragm that controls the size of the pupil.

The pupil regulates and controls the amount of light entering the eye.

The eye lens forms an inverted real image of the object on the retina.

The light-sensitive cells get activated upon illumination and generate electrical signals. These signals are sent to the brain via the optic nerves.

The brain interprets these signals.

POWER OF ACCOMMODATION

The process by which the ciliary muscles change the focal length of an eye lens to focus distant or near objects clearly on the retina is called the accommodation of the eye.

Near point or Least Distance of Distinct Vision
Near point or least distance of distinct vision is the point nearest to the eye at which an object is visible distinctly. For a normal eye the least distance of distinct vision is about 25 centimetres.

Far Point
Far point of the eye is the maximum distance up to which the normal eye can see things clearly. It is infinity for a normal eye.

Range of Vision
The distance between the near point and the far point is called the range of vision.

DEFECTS OF VISION

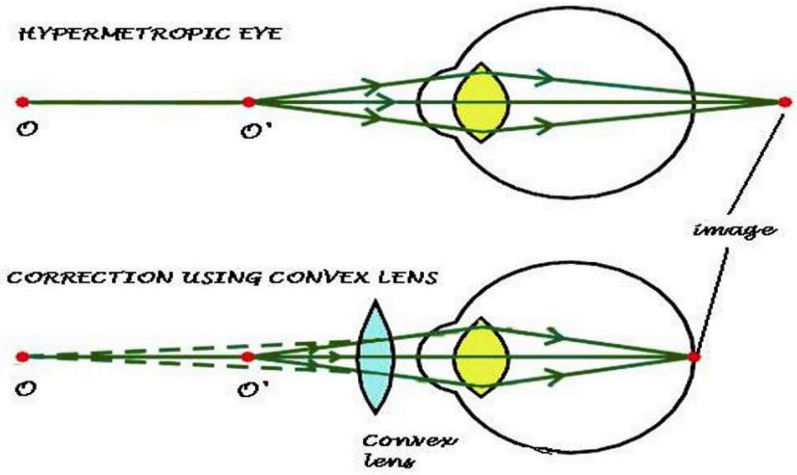
A normal eye can see all objects over a wide range of distances i.e., from 25 cm to infinity. But due to certain abnormalities the eye is not able see objects over such a wide range of distances and such an eye is said to be defective. Some of the defects of vision are

- Hypermetropia or long sightedness
- Myopia or short sightedness and
- Presbyopia
- Astigmatism

HYPERMETROPIA

Hypermetropia is also known as far-sightedness.
Hypermetropia or hyperopia is the defect of the eye due to which the eye is not able to see clearly the nearby objects though it can see the distant objects clearly. This defect arises either because (i) the focal length of the eye lens is too long, or (ii) the eyeball has become too small. This defect can be corrected by

using a convex lens of appropriate power. This is illustrated in below figure. Eye-glasses with converging lenses provide the additional focusing power required for forming the image on the retina.

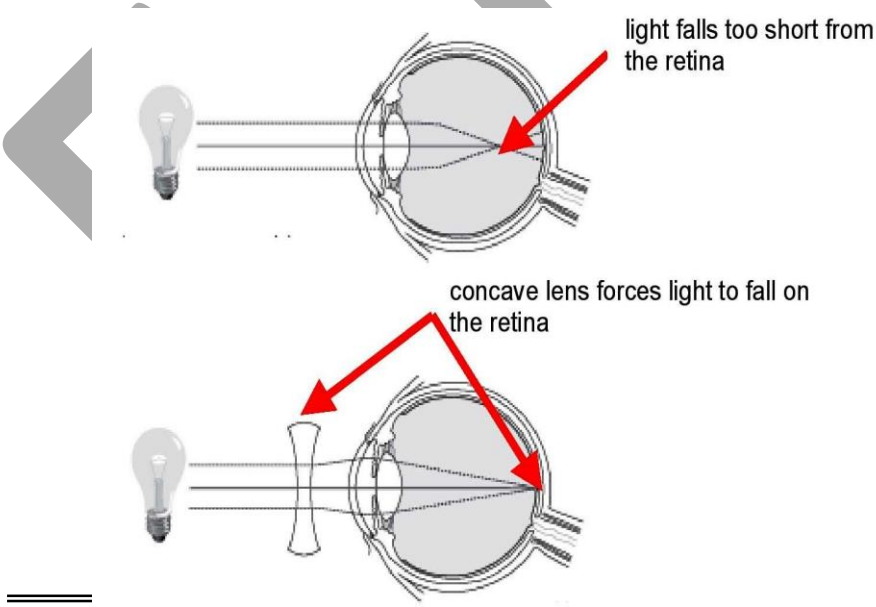


MYOPIA

Myopia is also known as near-sightedness.
A myopic person cannot see distant objects clearly because the far point of his eye is less than infinity. Myopia is the defect of the eye due to which the eye is not able to see the distant objects clearly.
Myopia is due to:

- the elongation of the eye ball, that is, the distance between the retina and eye lens is increased.
- decrease in focal length of the eye lens.

This defect may arise due to (i) excessive curvature of the eye lens, or (ii) elongation of the eyeball. This defect can be corrected by using a concave lens of suitable power.



PRESBYOPIA

Presbyopia occurs at the age of 40 years and its main symptom is reduced near vision. Difficulty in reading without glasses at 35-40 cm and fatigue after a short period of close work are present.

Normally the lens is flexible enough to change its shape when focusing at close objects. Loss of its flexibility and elasticity known as loss of the eye's adjustment mechanism results in presbyopia.

Presbyopia (which literally means "aging eye") is an age-related eye condition that makes it more difficult to see very close.

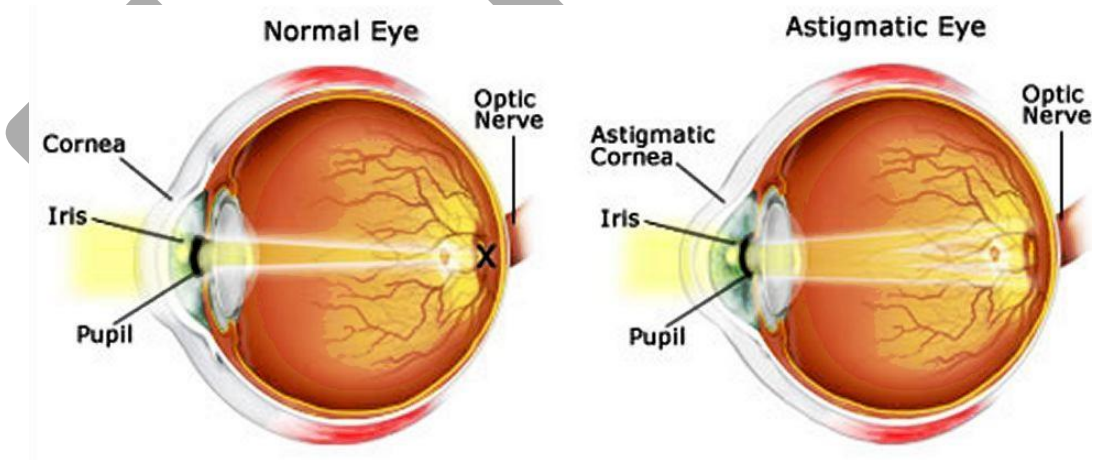
ASTIGMATISM

Astigmatism is an eye condition with blurred vision as its main symptom. The front surface of the eye (cornea) of a person with astigmatism is not curved properly - the curve is irregular - usually one half is flatter than the other - sometimes one area is steeper than it should be.

When light rays enter the eye they do not focus correctly on the retina, resulting in a blurred image. Astigmatism may also be caused by an irregularly shaped lens, which is located behind the cornea.

The two most common types of astigmatism are:
Corneal astigmatism - the cornea has an irregular shape
Lenticular astigmatism - the lens has an irregular shape

In astigmatism, images focus in front of and beyond the retina, causing both close and distant objects to appear blurry (see below figure).



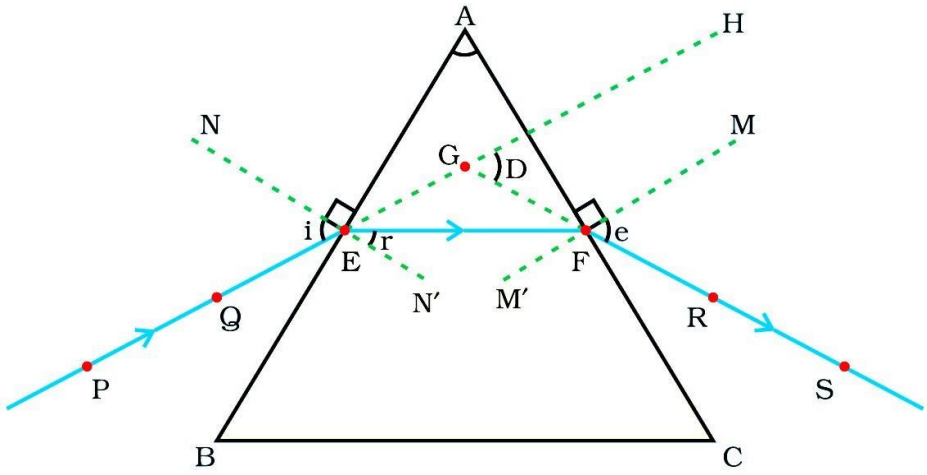
REFRACTION OF LIGHT THROUGH A PRISM

Prism is a transparent optical element, which refracts light.

An optical object to be defined as prism must have at least two faces with an angle between them.

A triangular glass prism has two triangular bases and three rectangular lateral surfaces. These surfaces are inclined to each other.

The angle between its two lateral faces is called the angle of the prism

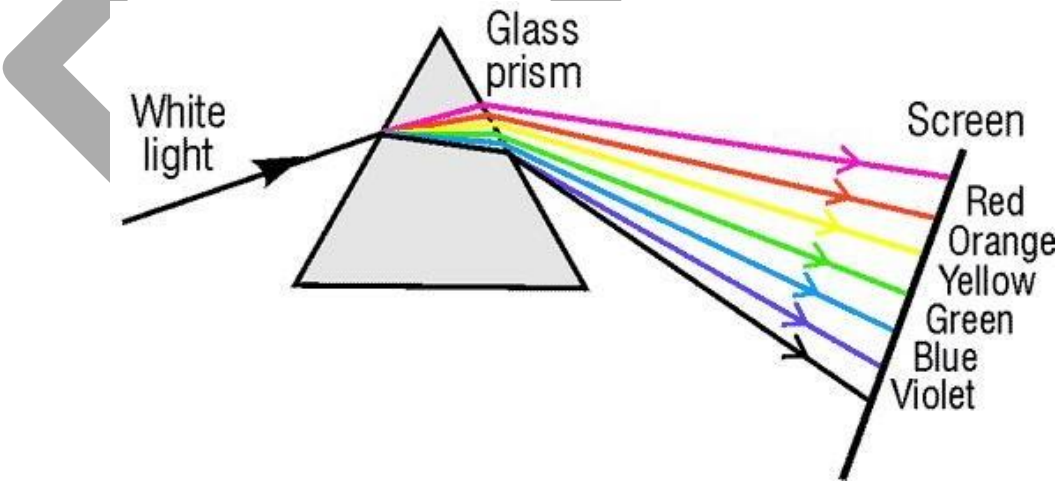


PE – Incident ray
EF – Refracted ray
FS – Emergent ray
∠A – Angle of the prism
∠i – Angle of incidence
∠r – Angle of refraction
∠e – Angle of emergence
∠D – Angle of deviation

DISPERSION OF WHITE LIGHT BY A GLASS PRISM

When a ray of light enters the prism, it bends towards the normal; because light is entering from a rarer medium to a denser medium. Similarly, when the light emerges from the prism, it follows the laws of refraction of light.

Due to the angle of the prism and due to different wavelengths of different components of white light; the emergent ray gets segregated into different colours. Finally, a colourful band of seven colours is obtained. This phenomenon is called dispersion of white light by the prism.



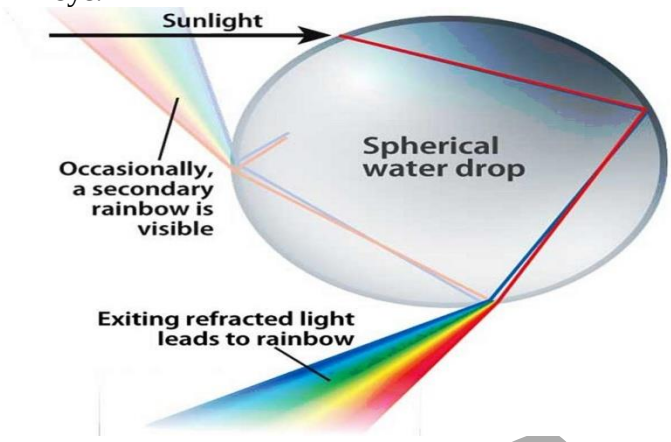
RAINBOW FORMATION

A rainbow is a natural spectrum appearing in the sky after a rain shower.

It is caused by dispersion of sunlight by tiny water droplets, present in the atmosphere.

A rainbow is always formed in a direction opposite to that of the Sun. The water droplets act like small prisms. They refract and disperse the incident sunlight, then reflect it internally, and finally refract it again when it comes out of the raindrop (see below figure). Due to the dispersion of light and internal reflection, different colours

reach the observer's eye.



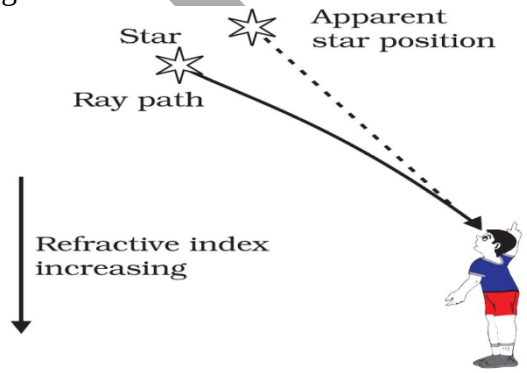
ATMOSPHERIC REFRACTION

Atmospheric refraction is the shift in apparent direction of a celestial object caused by the refraction of light rays as they pass through Earth's atmosphere.

TWINKLING OF STARS

Stars emit their own light and they twinkle due to the atmospheric refraction of light. Stars are very far away from the earth. Hence, they are considered as point sources of light.

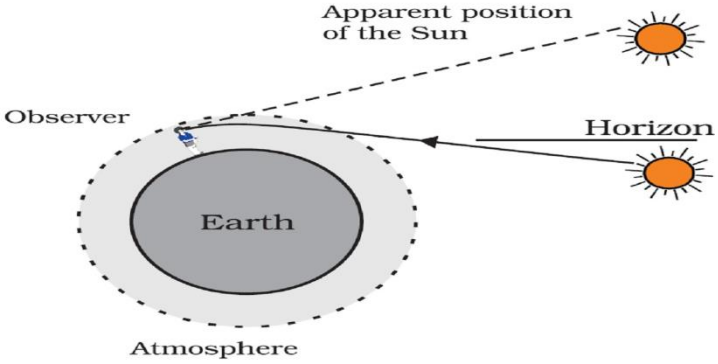
When the light coming from stars enters the earth's atmosphere, it gets refracted at different levels because of the variation in the air density at different levels of the atmosphere. When the star light refracted by the atmosphere comes more towards us, it appears brighter than when it comes less towards us. Therefore, it appears as if the stars are twinkling at night.



ADVANCE SUNRISE AND DELAYED SUNSET

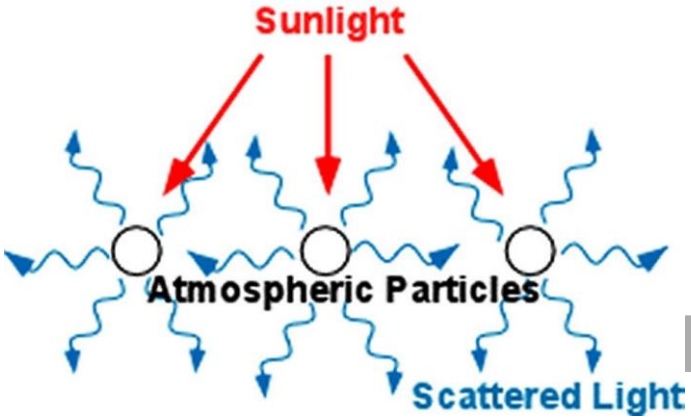
The Sun is visible to us about 2 minutes before the actual sunrise, and about 2 minutes after the actual sunset because of atmospheric refraction.

The apparent flattening of the Sun's disc at sunrise and sunset is also due to the same phenomenon.



SCATTERING OF LIGHT

In the air, part of the sunlight is scattered. The small particles (molecules, tiny water droplets and dust particles) scatter photons the more, the shorter their wavelength is. Therefore, in the scattered light, the short wavelengths predominate, the sky appears blue, while direct sunlight is somewhat yellowish, or even reddish when the sun is very low.



TYNDALL EFFECT

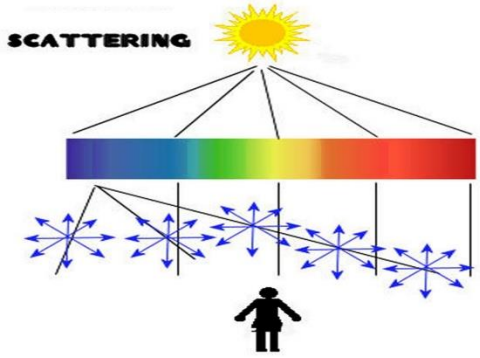
The earth's atmosphere is a heterogeneous mixture of minute particles. These particles include smoke, tiny water droplets, suspended particles of dust and molecules of air. When a beam of light strikes such fine particles, the path of the beam becomes visible. The light reaches us, after being reflected diffusely by these particles. The phenomenon of scattering of light by the colloidal particles gives rise to Tyndall effect.

WHY IS THE COLOUR OF THE CLEAR SKY BLUE?

The molecules of air and other fine particles in the atmosphere have size smaller than the wavelength of visible light. These are more effective in scattering light of shorter wavelengths at the blue end than light of longer wavelengths at the red end.

Thus, when sunlight passes through the atmosphere, the fine particles in air scatter the blue colour (shorter wavelengths) more strongly than red. The scattered blue light enters our eyes.

If the earth had no atmosphere, there would not have been any scattering. Then, the sky would have looked dark. The sky appears dark to passengers flying at very high altitudes, as scattering is not prominent at such heights.

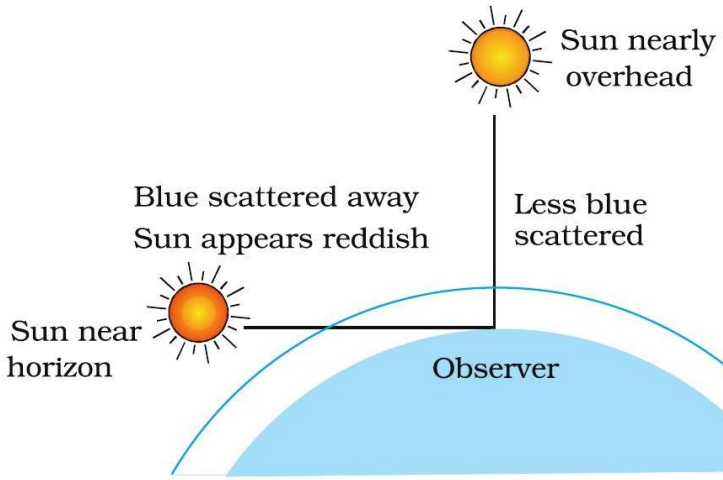


COLOUR OF THE SUN AT SUNRISE AND SUNSET

Light from the Sun near the horizon passes through thicker layers of air and larger distance in the earth's atmosphere before reaching our eyes (see below figure).

At noon, the Sun appears white as only a little of the blue and violet colours are scattered.

Near the horizon, most of the blue light and shorter wavelengths are scattered away by the particles. Therefore, the light that reaches our eyes is of longer wavelengths. This gives rise to the reddish appearance of the Sun.

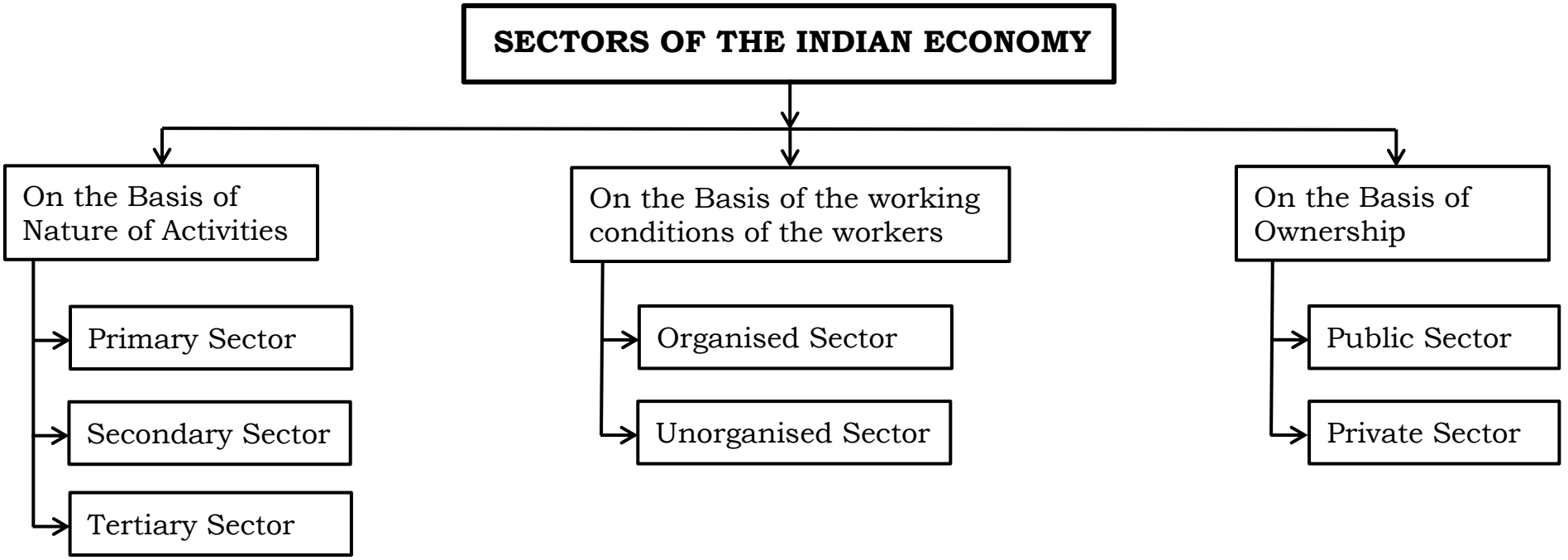


Class: X

Subject: Social Science (Economics)

Chapter 2: Sectors of the Indian Economy

Study Notes



Division of sectors on the Basis of Nature of Activities

Primary Sector

- It is also known as agriculture and related sector.
- This sector produces goods and services by exploiting natural resources.
- This sector continue to be the largest employer in India.
- Eg. Activities related to agriculture, forestry, fishing, mining and animal husbandary are included in this sector.

Secondary Sector

- It is also known as manufacturing / Industrial sector.
- This sector transforms one good into another by creating more utility from it.
- This sector provides the employment to the surplus workers of primary sector.
- Eg. Manufacturing units, small scale units, large firms, corporates and Multinational Corporations (MNCs).

Tertiary Sector

- It is also known as Service sector.
- This sector provides useful services to primary and secondary sectors for the smooth functioning of their working.
- This sectors sharing in employment in increasing in India.
- Eg. Services related to banking, insurance, trade and communications included in this sector.

How do we count the various goods and services and know the total production in each sector?

Primary Sector

- To know the total production in Primary Sector by adding the value of final goods produced rather than adding up to the actual number.
- Value of goods = Quantity Produced X Price of the Product.
- For example, if 10,000 kgs of wheat is produced and sold at Rs 8 per kg, the value of wheat will be Rs 80,000.
- Similarly 500 kgs of rice is produced and sold at Rs. 30 per kg, the value of rice will be Rs. 15,000 and so on.
- The total value of these two goods is Rs. 80,000 + Rs. 15,000 = Rs. 95,000.
- Similarly, the value of other goods are calculated, and then added up.

Secondary Sector

- To know the total production in Primary Sector by adding the value of final goods produced rather than adding up to the actual number.
- Value of goods = Quantity Produced X Price of the Product.
- For example, if 1,000 chairs are produced and sold at 500 each chair, the value of chairs will be Rs 5,00,000.
- Similarly 100 ACs are produced and sold at 30,000 each AC, the value of ACs will be Rs 30,00,000.
- The total value of these two goods is Rs. 5,00,000 + Rs. 30,00,000 = Rs. 35,00,000.
- Similarly, the value of other goods are calculated, and then added up.

Tertiary Sector

- In this sector the services is being provided, so the value of each services calculated and added up to get the total value.
- Eg. If the transporter has charged Rs. 5 per kg for wheat and rice, then the total money paid to him is for 10,000 kg wheat and 500 kg rice is Rs. 52,500. Similarly if a doctor charges Rs. 500 consultation fees for every patient and consulting 10 people, then total is Rs. 5,000 and so on.
- The total value of these two services is Rs. 52,500 + Rs. 5,000 = Rs. 57,500.
- Similarly, the value of other goods are calculated, and then added up.

GDP = Value of Output in Primary Sector + Value of Output in Secondary Sector + Value of Services in Tertiary Sector

GDP = *Rs. 95,000 + Rs. 35,00,000 + Rs. 57,500* = **Rs. 36,52,500**

GDP (Gross Domestic Product)

- The value of final goods and services produced in each sector during a particular year provides the total production of the sector for that year.
- The sum of production in the three sectors gives what is called the **Gross Domestic Product (GDP)** of a country.
- It is the value of all final goods and services produced within a country during a particular year.

Precaution While Calculating GDP

- Not every good (or service) that is produced and sold needs to be counted.
- It makes sense only to include the **final goods and services**.
- Take, for instance, a farmer who sells wheat to a flour mill for Rs 8 per kg.
- The mill grinds the wheat and sells the flour to a biscuit company for Rs 10 per kg.
- The biscuit company uses the flour and things such as sugar and oil to make four packets of biscuits.
- It sells biscuits in the market to the consumers for Rs 60 (Rs 15 per packet).
- Biscuits are the **final goods**, i.e., goods that reach the consumers.

FINAL GOODS AND SERVICES

- In contrast to final goods, goods such as wheat and the wheat flour in this example are intermediate goods.
- **Intermediate goods are used up** in producing final goods and services.
- The value of final goods **already includes** the value of all the intermediate goods that are used in making the final good.
- Hence, the value of Rs 60 for the biscuits (final good) already includes the value of flour (Rs 10).
- Similarly, the value of all other intermediate goods would have been included.
- To count the value of the flour and wheat separately is therefore not correct because then we would be counting the value of the same things a number of times. First as wheat, then as flour and finally as biscuits.

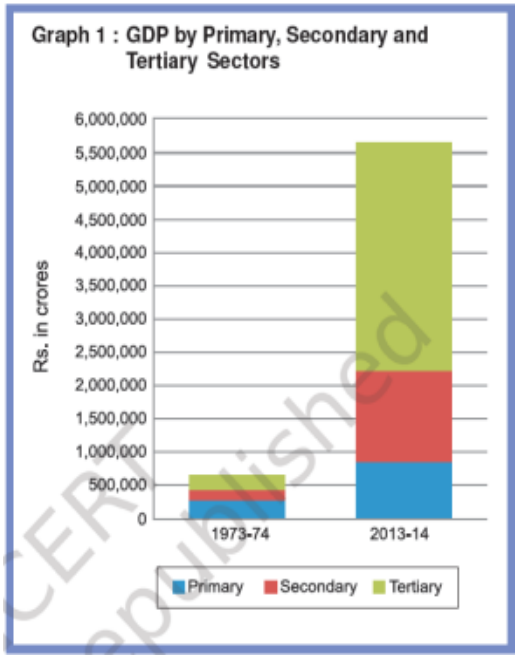
Comparing the Three Sectors

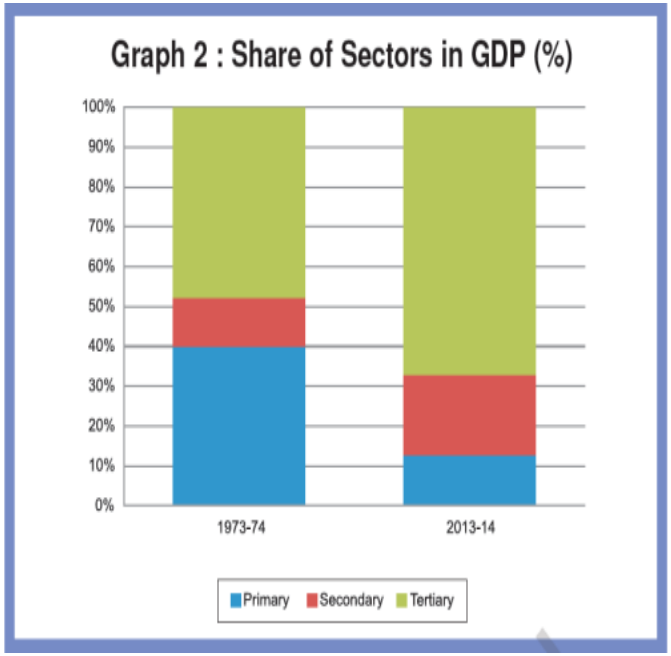
Composition of Gross Domestic Product

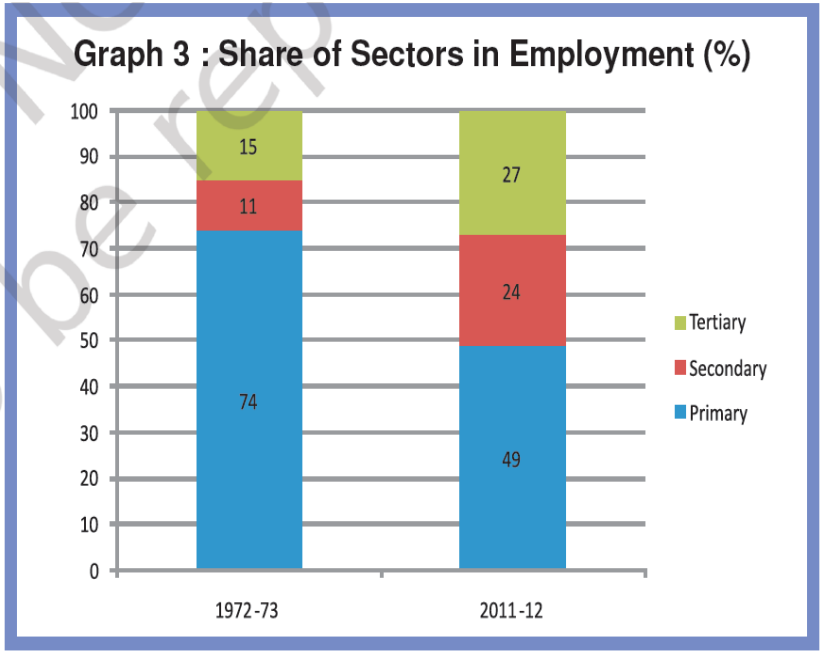
We divide the GDP into three groups and find the percentage share of each group in the **GDP**.

Occupational Structure

The contribution of each of the three sectors in the generation of **employment** in the economy.







LET'S WORK THESE OUT

Answer the following questions by looking at the graph:

1. Which was the largest producing sector in 1973-74?
2. Which is the largest producing sector in 2013-14?
3. Can you say which sector has grown the most over forty years?
4. What was the GDP of India in 2013-14?

Conclusions can we draw from the comparison

- **Graph 1** shows the production of goods and services in the three sectors.
- This is shown for two years, 1973-74 and 2013-14.
- You can see how the total production has grown over the forty years.
- Over the forty years between 1973-74 and 2013-14, while production in all the three sectors has increased, it has increased the most in the tertiary sector.
- As a result, in the year 2013-14, the **tertiary sector has emerged as the largest producing sector** in India replacing the primary sector.
- **Graph 2** presents percentage share of the three sectors in GDP.
- Now you can directly see the changing importance of the sectors over the forty years.

- A remarkable fact about India is that while there has been a change in the share of the three sectors in GDP, a similar shift has not taken place in employment.
- **Graph 3** shows the share of employment in the three sectors in 1972-73 and 2011-12. The primary sector continues to be the largest employer even now.
- Why didn't a similar shift out of primary sector happen in case of employment? It is because not enough jobs were created in the secondary and tertiary sectors.
- Even though industrial output or the production of goods went up by more than nine times during the period, employment in the industry went up by around three times.
- The same applies to the tertiary sector as well.
- While production in the service sector rose by 14 times, employment in the service sector rose around five times.
- As a result, more than half of the workers in the country are working in the primary sector, mainly in agriculture, producing only a quarter of the GDP.
- In contrast to this, the secondary and tertiary sectors produce four-fifths of the produce whereas they employ less than half the people.

Rising Importance of the Tertiary Sector in Production

Between 1973 – 2014- Emerged as the largest producing sector replacing primary sector

Tertiary sector is becoming so important in India. There could be several reasons.

- **First,**
  1) In any country **several services** such as hospitals, educational institutions, post and telegraph services, police stations, courts, village administrative offices, municipal corporations, defence, transport, banks, insurance companies, etc. are required.
  2) These can be considered as basic services.
  3) In a developing country the government too has to take responsibility for the provision of these services. Thus the number of institutions mentioned in para 1 have increased in number over time.
- **Second,**
  1) The **development of agriculture and industry** leads to the development of services such as **transport, trade, storage** leading to growth in Tertiary Sector.
  2) Greater the development of the primary and secondary sectors more would be the demand for Tertiary Sector
- **Third,**
  1) As income levels rise especially in big cities, certain sections of people **start demanding many more service**s like eating out, tourism, shopping, private hospitals, private schools, professional training etc.
  2) This again leads to growth in Tertiary sector.
- **Fourth,**
  1) Over the past decade or so, certain **new services** such as those based on information and communication technology have become important and essential.

Underemployment / Disguised Unemployment

- When **more than required numbers** of people are engaged in productive activities, it is called **underemployment**
- In this case, work done by a person is **hidden** and even if the person is removed from employment, the production will remain the same.
- The persons who are employed and remains unproductive throughout the work is said to be disguisedly unemployed.
- Therefore, underemployment is also known as **disguised** unemployment.

- For example, Suppose a land can be harvested by ten persons effectively, but actually, 14 workers are engaged in similar kind of a job, then the contribution by additional four persons will be zero as they will contribute nothing to the level of output.
- The disguised unemployment is very much prevalent in agriculture, where the population pressure is high, and the job opportunities are few.

In Rural Area

All the family members work in the same field

This means that even if we remove a lot of people from agricultural sector and provide them work somewhere else, the agricultural production will not be affected

In Urban Area

There are thousands of casual workers in the service sector in urban areas who search for daily employment.

They are employed as painters, plumbers, repair persons and others doing odd jobs. They don't find work every day.

Similarly, we see other people of the service sector on the street pushing a cart or selling something where they may spend the whole day but earn very little. They are doing this work because they do not have better opportunities.

GOVERNMENT POLICIES TO PROMOTE EMPLOYMENT

1) Banks can provide a **loan** to construct wells to irrigate their lands.

2) **Dam construction** will provide employment opportunities as well as irrigation facilities.

3) **Better rural roads and more transportation facilities** to be provided to farmers to sell their crops.

4) On the credit of local banks, inputs like seeds, fertilisers, agricultural equipment can be bought.

5) Government can promote and locate **industries in the semi-rural areas** to generate employment.

6) Mills like–**Dal mill, cold storage, honey collection centres**, processing of vegetables etc.

7) Employment can be generated in **tourism, regional craft industry** or new services like IT.

8) **More schools** will lead to employment to teachers, builders, peons and other staff.

9) For improving **health situation, more doctors, nurses, health workers** are needed to work in rural areas.

Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA 2005)

The central government in India made a law implementing the **Right to Work** in about 625 districts of India. It is called Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA 2005).

All those who are able to, and are in need of, works in rural areas are guaranteed **100 days** of employment in a year by the government.

If the government fails in its duty to provide employment, it will give **unemployment allowances** to the people.

The types of work that would in future help to increase the **production from land** will be given preference under the Act.

Division of sectors on the Basis of the working conditions of the workers

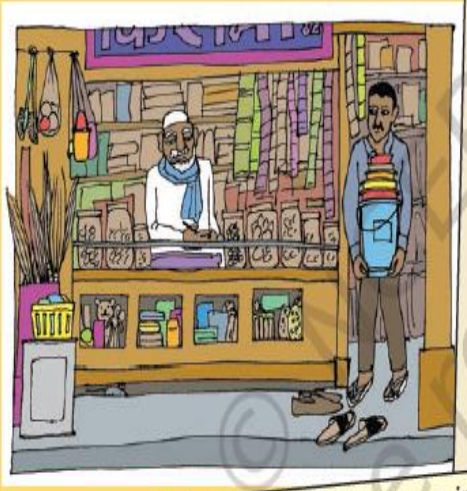
- Organised Sector
- Unorganised Sector

Kanta

Kanta works in an office. She attends her office from 9.30 a.m. to 5.30 p.m. She gets her salary regularly at the end of every month. In addition to the salary, she also gets provident fund as per the rules laid down by the government. She also gets medical and other allowances. Kanta does not go to office on Sundays. This is a paid holiday. When she joined work, she was given an appointment letter stating all the terms and conditions of work.

Kamal

Kamal is Kanta's neighbour. He is a daily wage labourer in a nearby grocery shop. He goes to the shop at 7:30 in the morning and works till 8:00 p.m. in the evening. He gets no other allowances apart from his wages. He is not paid for the days he does not work. He has therefore no leave or paid holidays. Nor was he given any formal letter saying that he has been employed in the shop. He can be asked to leave anytime by his employer.



Do you see the differences in the conditions of work between Kanta and Kamal?

Kanta works in the **organised sector.**

- Organised sector covers those enterprises or places of work where the terms of employment are **regular** and therefore, people have assured work.
- They are registered by the government and have to **follow its rules and regulations**.
- Workers in the organised sector enjoy **security of employment**.
- They are expected to work only a fixed number of hours.
- If they work more, they have to be paid overtime by the employer.
- They also get several other benefits from the employers such as they get **paid leave**, payment during holidays, provident fund, gratuity etc.
- They are supposed to get medical benefits and, the factory manager has to ensure facilities like drinking water and a safe working environment.
- When they retire, these workers get pensions as well.

Kamal works in the **unorganised sector.**

- The unorganised sector is characterised by **small and scattered units** which are largely outside the control of the government.
- There are rules and regulations but these are **not followed.**
- Employment is **not secure**.
- People can be asked to leave without any reason. When there is less work, such as during some seasons, some people may be asked to leave.
- Jobs here are **low-paid** and often **not regular**.
- There is **no provision for overtime, paid leave, holidays, leave due to sickness** etc.
- A lot also depends on the whims of the employer.
- This sector includes a large number of people who are employed on their own doing small jobs such as selling on the street or doing repair work.
- Similarly, farmers work on their own and hire labourers as and when they require.

Workers in the Unorganised Sector

Rural areas

In the rural areas, the unorganised sector mostly comprises of landless agricultural labourers, small and marginal farmers, sharecroppers and artisans (such as weavers and carpenters)

Nearly 80 per cent of rural households in India are in small and marginal farmer category.

These farmers need to be supported through adequate facility for timely delivery of seeds, agricultural inputs, credit, storage facilities and marketing

Urban Areas

In the urban areas, unorganised sector comprises mainly of workers in small-scale industry, casual workers in construction, trade and transport etc., and those who work as street vendors, head load workers etc.

Small-scale industry also needs government's support for procuring raw material and marketing of output.

The casual workers in both rural and urban areas need to be protected.

SC / ST

Majority of workers from scheduled castes, tribes and backward communities find themselves in the unorganised sector.

Besides getting the irregular and low paid work, these workers also face social discrimination.

Protection and support to the unorganised sector workers is thus necessary for both economic and social development.

Division of sectors on the Basis of Ownership

PUBLIC SECTOR

- In the public sector, the government owns most of the assets and provides all the services.
- Railways or post office is an example of the public sector.
- The purpose of the public sector is not just to earn profits.
- Governments raise money through taxes and other ways to meet expenses on the services rendered by it.

PRIVATE SECTOR

- In the private sector, ownership of assets and delivery of services is in the hands of private individuals or companies.
- Companies like Tata Iron and Steel Company Limited (TISCO) or Reliance Industries Limited (RIL) are privately owned.
- Activities in the private sector are guided by the motive to earn profits.
- To get such services we have to pay money to these individuals and companies.

PUBLIC SECTOR CONTRIBUTES TO ECONOMIC DEVELOPMENT OF A NATION

Public sector contributes to economic development of a nation in the following ways.

1) It promotes rapid economic development through creation and expansion of infrastructure.

2) It creates employment opportunities.

3) It generates financial resources for development.

4) It is ensuring equality of income, wealth and thus, a balanced regional development.

5) It encourages development of small, medium and cottage industries.

6) It ensures easy availability of goods at moderate rates.

7) It contributes to community development via health and educational services.

East Point School

Study Notes
Class: - X (2021-22)
SOCIAL SCIENCE –Political science

Democracy produces an accountable, responsive and legitimate government: A democracy is concerned with ensuring that people have the right to choose their rulers and have control over the rulers.

When possible and necessary, citizens should be able to participate in decision-making in a democracy. Democracy ensures that decision-making is based on norms and procedures. A citizen has the right and the means to examine the process of decision-making. Thus democracy entails transparency.

For a democracy to produce an accountable, responsive and legitimate government, it must ensure the following—

Regular, free and fair elections; Open public debate on major policies and legislation's; Citizens' right to be informed about government policies; A government free from corruption.

Two conditions necessary for a democracy to achieve harmonious society: Democracy must fulfill the following two conditions in order to achieve a harmonious social life:

1. Majority and minority opinions are not permanent. Democracy is not simply rule by majority opinion. The majority needs to work with the minority so that government may function to represent the general view.
2. Rule by majority does not become rule by majority community in terms of religion or race or linguistic groups, etc. Democracy remains democracy so long as every citizen has a chance of being in majority at some point of time. No individual should be debarred from participating in a democracy on the basis of religion, caste, community, creed and other such factors..

Outcomes of democracy:

There are certain things that democracy must provide.

1. In a democracy people have the right to choose their rulers and people will have control over them. Whenever possible and necessary, citizens should be able to participate in decision¬making, that affects them all.
2. It is right to expect democracy to produce a government that follows procedures and is accountable to people. Democratic government develops mechanisms for citizens—regular, free and fair elections, open public debate on major policies and legislation's, and citizens' right to information about the government and its functioning.

Democracy is a better form of government than others:

- Based on the idea of deliberation and negotiation. Thus the necessary delay in implementation.
- Decisions are acceptable to people and are more effective.
- A citizen has the right and the means to examine the process of- decision-making. There is transparency.
- Democratic government is legitimate government, people's own government.
- There is inability of democracy to achieve higher economic growth which is a cause of worry.
- Ability to handle differences, decisions and conflicts is a positive point of democratic regimes.
- Democracy has strengthened the claims of the disadvantaged and discriminated castes for equal status and equal opportunity.

Dignity and freedom of citizens are best guaranteed in a democracy:

1. **Dignity of women.** The one way to ensure that women related problems get adequate attention is to have more women as elected representatives. To achieve this, it is legally binding to have a fair proportion of women in the elected bodies. Panchayati Raj in India has reserved one-third seats in local government bodies for women. In March 2010, the Women's Reservation Bill was passed in the Rajya Sabha ensuring 33% reservation for women in Parliament and State legislative bodies.
2. **Democracy has strengthened the claims of disadvantaged and discriminated castes.** When governments are formed, political parties usually take care that representatives of different castes and tribes find a place in it. Some political parties are known to favour some castes. Democracy provides for equal status and opportunities for all castes.

3. **Democracy transforms people from the status of a subject into that of a citizen.** A democracy ensures that people will have the right to choose their rulers and people will have control over the rulers.
4. **A citizen has the right and the means to examine the process of decision-making.** There is transparency in a democracy like India. In October 2005, the Right to Information (RTI) law was passed which ensures all its citizens the right to get all the information about the functions of the government departments.

EAST POINT SCHOOL
CLASS-X
SUBJECT-HISTORY SESSION 2021-2022
CHAPTER- 2 NATIONALISM IN INDIA
CLASS NOTES-1

1. **First World War, Khilafat and Non-Cooperation**
2. National Movement was spreading in new areas in 1919 and incorporating new social groups and developing new modes of struggle.
3. Mahatma Gandhi came to India and The Idea of Satyagraha emphasized the power of truth and the need to search for truth.
4. He advocated that physical force was not necessary to fight the oppressor.
5. In 1916, He travelled to Champaran in Bihar to inspire the peasants to struggle against the oppressive plantation system.

The Idea of Satyagraha

1. Mahatma Gandhi returned to India in January, 1915. His heroic fight for the Indians in South Africa was well-known. His novel method of mass agitation known as Satyagraha had yielded good results.
2. The idea of Satyagraha emphasized the power of truth and the need to search for truth.
3. In 1916, Gandhi travelled to Champaran in Bihar to inspire the peasants to struggle against the oppressive plantation system.
4. In 1917,crops field in Kheda district of Gujrat, but the government refused to remit land revenue and insisted on its full collection.
5. In 1918, Mahatma Gandhi intervened in a dispute between workers and mill owners of Ahmedabad. He advised to workers to go on strike and to demand a 35% increase in wages.
6. Satyagraha brought Gandhiji into close touch with the workers in the urban areas.

The Rowlatt act

1. When the Rawlatt act 1919, was passed hurriedly through the Imperial Legislative Council inspire of unanimous opposition of the Indian members, Gandhiji's patience comes to an end.

2. Gandhi wanted non-violent civil disobedience against such unjust laws, which would start with a hartal on 6th April.
3. 6th April 1919 was observed as Satyagraha Day when people all over the country observed fast and hartal.
4. 1919, the country witnessed a remarkable political awakening in India.
5. Local leaders were picked up from Amritsar and Mahatma Gandhi was barred from entering Delhi.
6. On 10th April, the police in Amritsar fired upon a peaceful procession, provoking widespread attacks on banks.

Jallianwala **Bagh Massacre**

1. A large crowd gathered in the enclosed ground of Jalliawalla Bagh.
2. People came to protest against government's repressive measure while some came to attend the annual Baisakhi fair.
3. General Dyer entered the area. Blocked the exit points and opened fire on the crowd, killing hundreds.
4. The government responded with brutal repression seeking to humiliate and terrorise people.
5. Satyagrahis were forced to rub their noses on the ground, crawl on the streets and do Salaam (salute) to all Sahibs.

Khilafat movement

1. Rowlatt Satyagraha had been a widespread movement, it was still limited mostly to cities and towns.
2. Mahatma Gandhi now felt the need to launch a more broad based movement in India.
3. But he was certain that no such movement could be organized without bringing the Hindus and Muslims closer together.
4. The First World War had ended with the defeat of Ottoman Turkey. There were rumors that a harsh peace treaty was going to be imposed on the Ottoman Emperor, who was the spiritual head (Khalifa) of the Islamic world.
5. The Muslims of India decided to force Britain to change her Turkish policy.
6. A Khalifa Committee was formed under the leadership of Maulana Azad, Ajmal Khan and Hasrat Mohani.

7. A young generation of Muslim leaders like the brothers Muhammad Ali and Shaukat Ali began discussing with Mahatma Gandhi about the possibility of a united mass action on the issue.

Differing strands within the movement:

1. Rebellion in the countryside: – From the cities, the noncooperation movement spread to the countryside. After the war, the struggles of peasants and tribal were developing in different parts of India.
2. One movement here war against talukdars and landlords who demanded from peasant exorbitantly high rents and a variety of other cesses.
3. Peasants had to do begar. The peasant movement demanded reduction of revenue, an abolition of begar and social boycott of oppressive landlords.
4. Oudh Kisan Sabha was setup headed by. Jawaharlal Nehru and other, within a month, over 300 branches had been set up by the villagers.
5. Tribal peasants interpreted the message of Mahatma Gandhi and the idea of Swaraj in yet another way.
6. The colonial government had closed large forest areas preventing people from entering the forests to graze their cattle, or to collect fuel wood and fruits.
7. Alluri Sitaram Raju Claimed that he had a variety of special powers. He asserted that India could be liberated only by the use of force.

Towards Civil Disobedience

1. Mahatma Gandhi decided to withdraw the Non-Cooperation Movement in 1922.
2. The movement was turning violent in many places and satyagarhis needed properly trained for mass struggle.
3. CR Das and Motilal Nehru formed the Swaraj Party within the Congress to argue for a return to council politics.
4. Salt was a powerful symbol that could unite the nation.
5. Salt march accompanied by 78 of his trusted volunteers.
6. Finally, Mahatma Gandhi once again decided to call off the movement and entered into a pact with Irwin on 5 March 1931.
7. Participants saw the movement in different angle such as Patidars of Gujarat and Jats of Uttar Pradesh.

8. To organise business interest, formed the Indian Industrial and commercial congress in 1920 and Federation of the Indian Chamber of Commerce and Industries (FICCI).
9. Gandhi called to Untouchable that is Harijan, Children of God.

The Sense of Collective Belonging

1. Nationalist Movement Spreads when people belonging to different regions and communities begin to develop a sense of collective belongingness. The identity of a nation is most often symbolized in a figure or image.
2. This image of Bharat Mata was first created by Bankim Chandra Chattopadhyay in 1870 when he wrote 'Vande Mataram ' for our motherland. Indian folk songs and folk sung by bards played an important role in making the idea of nationalism. In Bengal, Rabindranath Tagore and in Madras, Natesa, Sastri collection of folk tales and songs, which led the movement for folk revival.
3. During the Swadeshi Movement, a tri-color (red, green and yellow) flag was designed in Bengal. It had eight lotuses representing eight provinces and a crescent moon representing Hindus and Muslims.
4. Means of creating a feeling of nationalism was through reinterpretation of history. The nationalist writers urged the readers to take pride in India's great achievements in the past and struggle to change the miserable conditions of life under British rule.

East Point School

Class X

Subject – Geography

Study Notes

Chapter- Mineral and energy resources

Ferrous Minerals

❖Ferrous minerals account for about three-fourths of the total value of the production of metallic minerals.
❖They provide a strong base for the development of metallurgical industries.
Two types of ferrous minerals are:
❖ Iron ore
❖ Manganese

Iron Ore

❖Iron ore is the basic mineral and the backbone of industrial development.
❖India is rich in good quality iron ores.
❖Magnetite is the finest iron ore with a very high content of iron up to 70%.
❖Hematite ore is the most important industrial iron ore in terms of the quantity used, but has a slightly lower iron content than magnetite. (50- 60%).

Major iron ore belts in India are:-

❖Orissa-Jharkhand belt:- Haematite iron ore is mined in Goa and Noamundi.
❖Durg-Bastar-Chandrapur belt lies in Chhattisgarh and Maharashtra. Iron ore from these mines is exported to Japan and South Korea via Vishakhapatnam port.
❖Bellary-Chitradurga - Chikmanglur - Tumkur belt in Karnataka has large reserves of iron ore. The ore is transported as slurry through a pipeline to a port near Mangalore.
❖Maharashtra-Goa belt includes the state of Goa and Ratnagiri district of Maharashtra. Iron ore is exported through Marmagao port.

Manganese

❖Manganese is mainly used in the manufacturing of steel and Ferro manganese alloy.
❖Nearly 10 kg of manganese is required to manufacture one tonne of steel.
❖It is also used in manufacturing bleaching powder, insecticides and paints .
❖Orissa is the largest producer of manganese ores in India. It accounted for one-third of the country's total production in 2000-01.

Non-Ferrous Minerals

A non-ferrous mineral is any mineral, that does not contain iron in appreciable amounts. Non-ferrous metals are used because of desirable properties such as low weight (e.g.-

aluminium), higher conductivity (e.g.- copper), non- magnetic property or resistance to corrosion (e.g.- zinc). Some non-ferrous materials are also used in the iron & steel industries, For e.g.- Bauxite is used as a flux for blast furnaces.

Copper

Copper India is critically deficient in the reserve and production of copper. Being malleable, ductile and a good conductor, copper is mainly used in electrical cables, electronics and chemical industries. The Balaghat mines in Madhya Pradesh, Khetri mines in Rajasthan and Singhbhum district of Jharkhand are leading producers of copper.

Bauxite

Though, several ores contain aluminium, it is from bauxite, a clay-like substance that alumina and later aluminium is obtained. Bauxite deposits are formed by the decomposition of a wide variety of rocks rich in aluminium silicates.

India’s bauxite deposits are mainly found in the Amarkantak plateau, Maikal hills and the plateau region of Bilaspur-Katni.

Odisha was the largest bauxite producing state in India in 2016-17. Panchpatmali deposits in Koraput district are the most important bauxite deposits in the state.

EAST POINT SCHOOL
Information Technology (402)
Class 10

Important Questions with Solutions

Unit – 2
ELECTRONIC SPREADSHEET (ADVANCED)

SESSION 1: ANALYSE DATA USING SCENARIOS AND GOAL SEEK

1) What do you mean by data consolidation? Give an example.

Data Consolidation allows you to gather together your data from separate worksheets into a master worksheet. In other words, the Data Consolidation function takes data from a series of worksheets or workbooks and summaries it into a single worksheet that you can update easily.

	A	B	C	D
1	2019 – Data			
2		April	May	June
3	Ravi	100	124	136
4	Rahul	250	150	165
5	Deepak	156	142	160

Figure 1: Sheet2019

	A	B	C	D
1	2019 – Data			
2		April	May	June
3	Ravi	100	120	95
4	Rahul	100	145	75
5	Deepak	100	147	100

Figure 2: Sheet2020

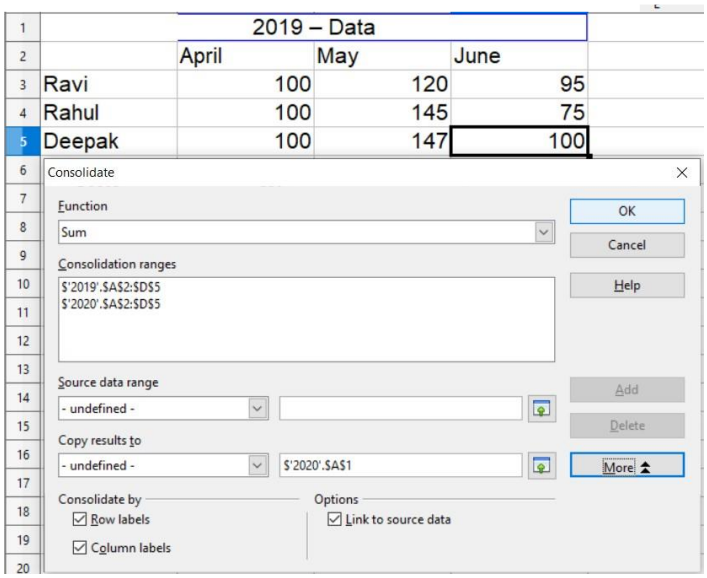


Figure 4: Master Sheet

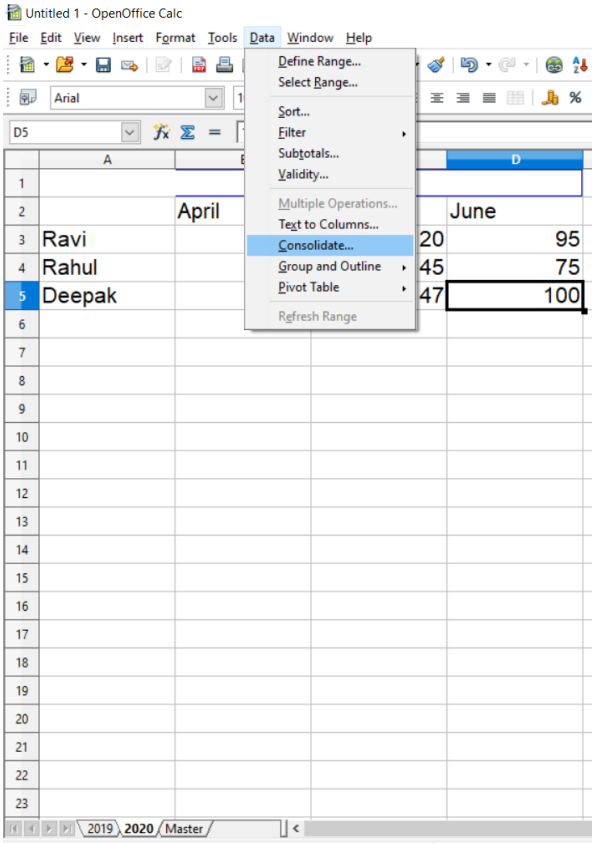
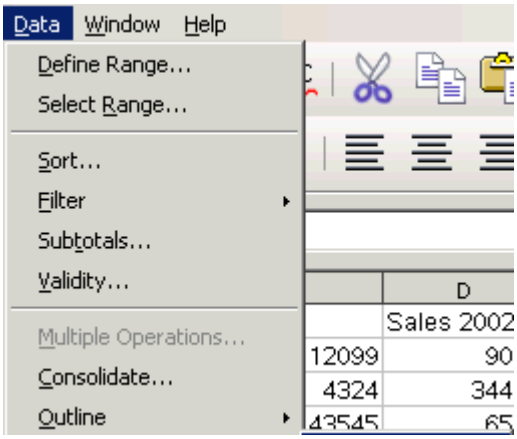


Figure 3: Steps for data consolidation

2) *What do you mean by Subtotal? Give example.*

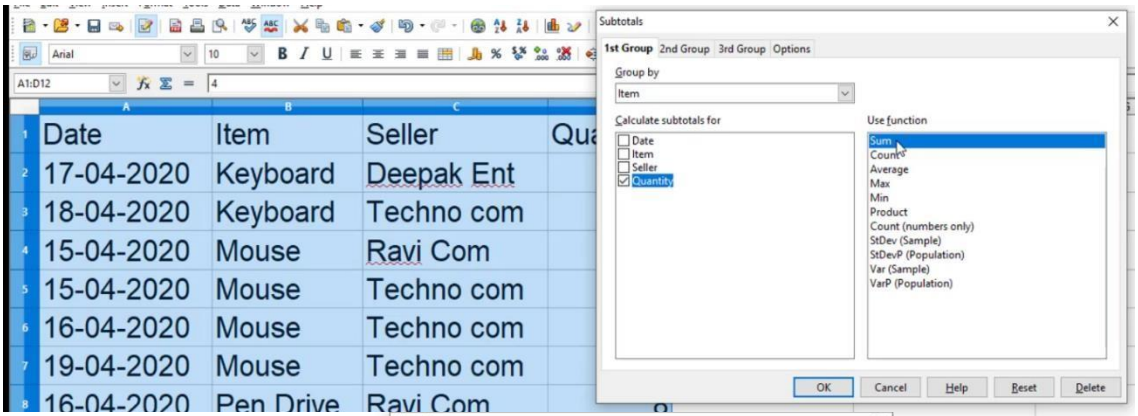
SUBTOTAL is a function listed under the Mathematical category when you use the Function Wizard (Insert > Function). Because of its usefulness, the function has a graphical interface. It is accessible from Data menu as shown in Figure.

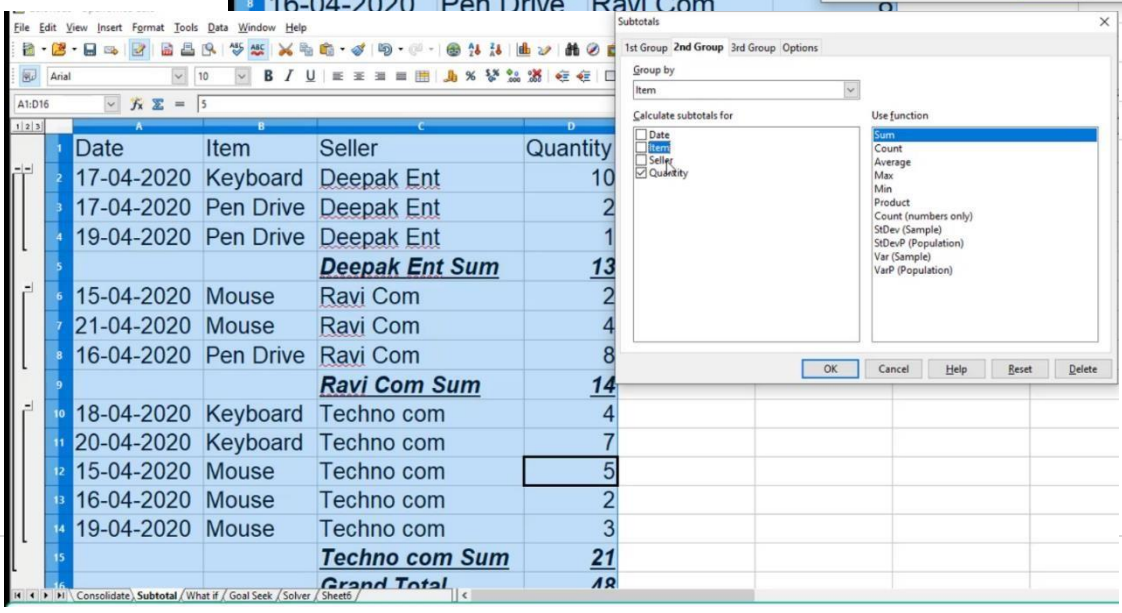


SUBTOTAL, totals/adds data arranged in an array—that is, a group of cells with labels for columns and/or rows. Using the Subtotals dialog, you can select arrays, and then choose a statistical function to apply to them. For efficiency, you can choose up to three groups of arrays to which to apply a function. When you click OK, Calc adds subtotals and grand totals to the selected arrays, using the Result and Result2 cell styles for them.

	A	B	C	D
1	Date	Item	Seller	Quantity
2	17-04-2020	Keyboard	Deepak Ent	10
3	18-04-2020	Keyboard	Techno com	4
4	15-04-2020	Mouse	Ravi Com	2
5	15-04-2020	Mouse	Techno com	5
6	16-04-2020	Mouse	Techno com	2
7	19-04-2020	Mouse	Techno com	3
8	16-04-2020	Pen Drive	Ravi Com	8
9	17-04-2020	Pen Drive	Deepak Ent	2
10	19-04-2020	Pen Drive	Deepak Ent	1

Full Explanation:
https://youtu.be/1jOvhY9fxWI

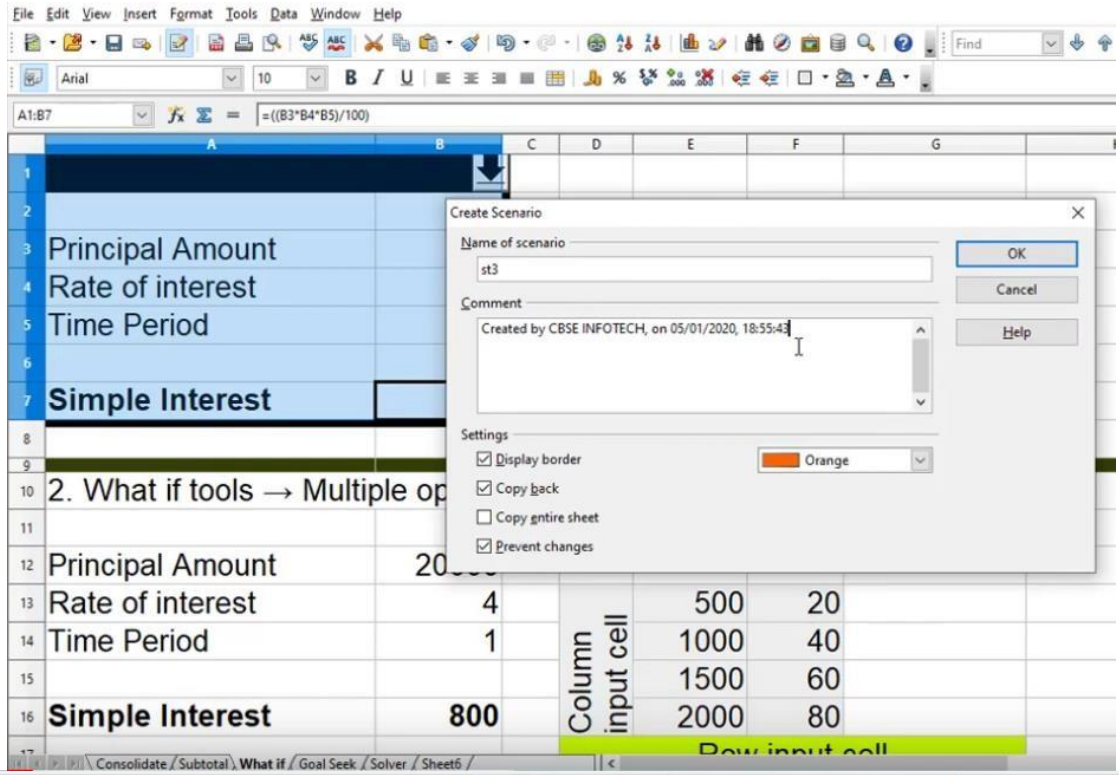


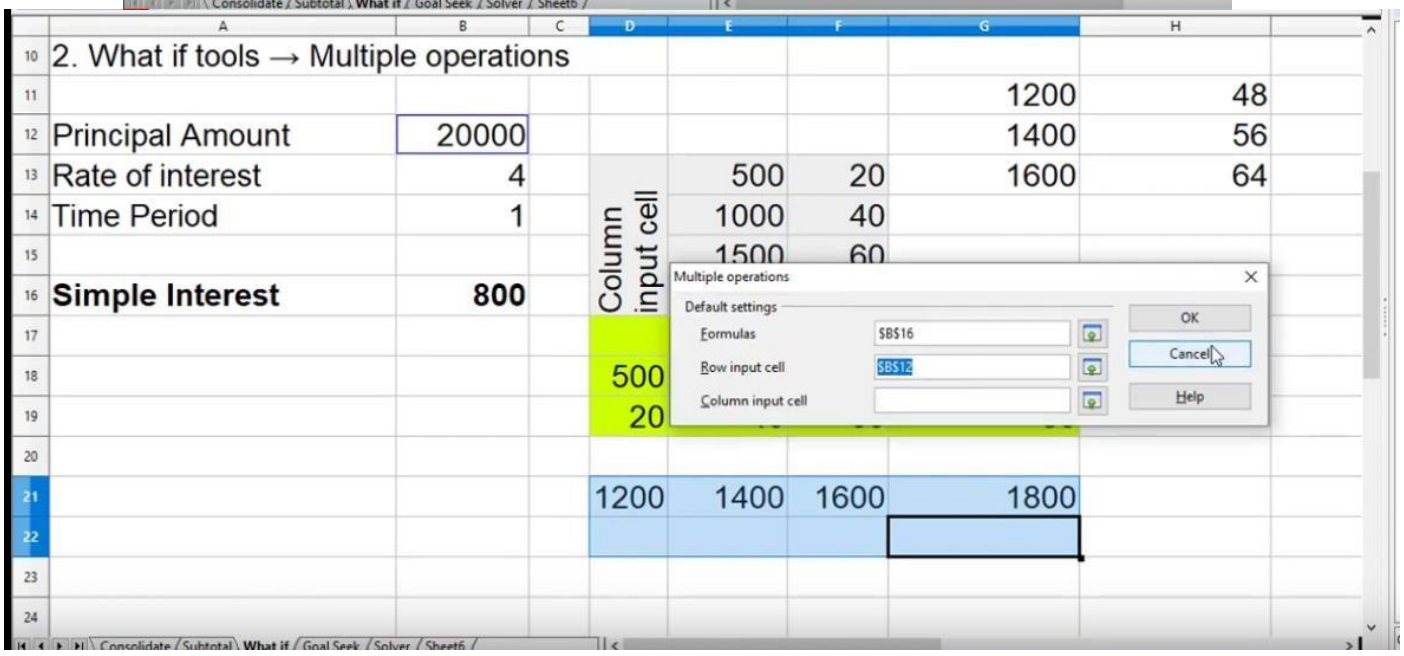


3) What do you mean by what if and scenario? Give example.

Scenarios are a tool to test "what-if" questions. Each scenario is named, and can be edited and formatted separately. When you print the spreadsheet, only the content of the currently active scenario is printed.

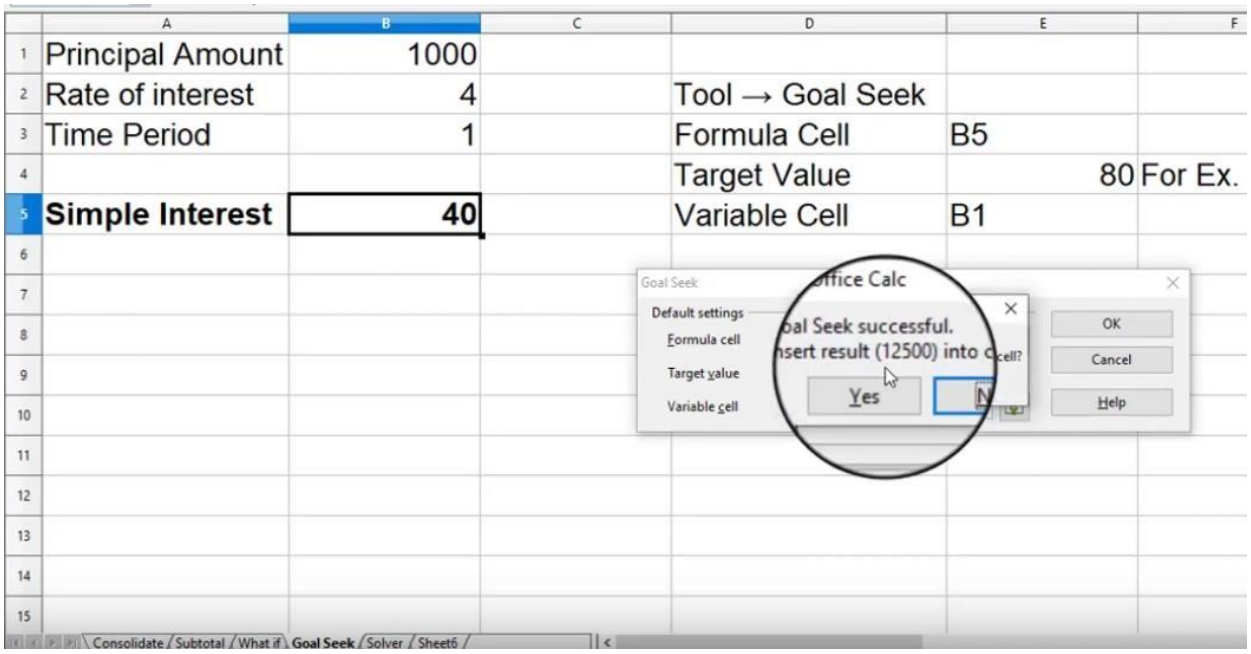
A scenario is essentially a saved set of cell values for your calculations. You can easily switch between these sets using the Navigator or a drop-down list which can be shown beside the changing cells.





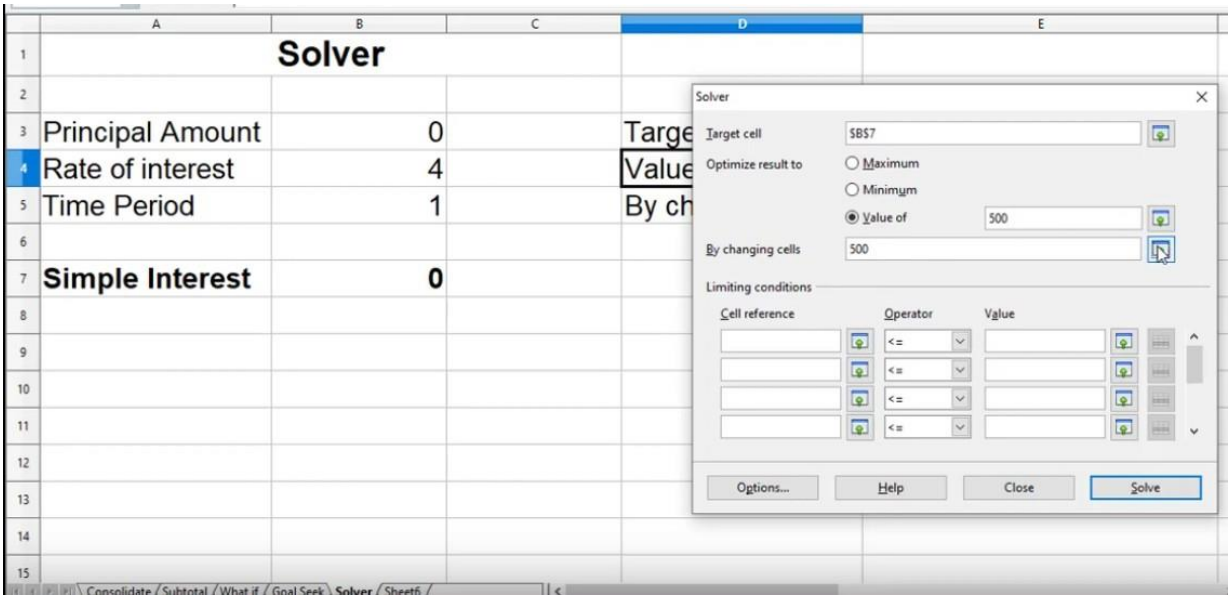
4) What do you mean by goal seek? Give example.

Usually, you run a formula to calculate a result based upon existing values. By contrast, using Goal Seek option under Tools menu, you can discover what values will produce the result that you want.



5) What do you mean by Solver? Give example.

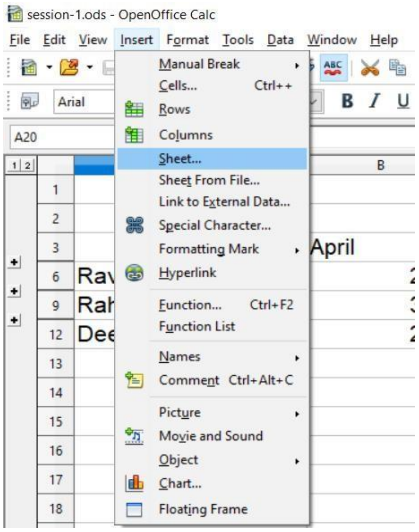
Solver option under Tools menu amounts to a more elaborate form of Goal Seek. The difference is that the Solver deals with equations with multiple unknown variables. It is specifically designed to minimize or maximize the result according to a set of rules that you define.

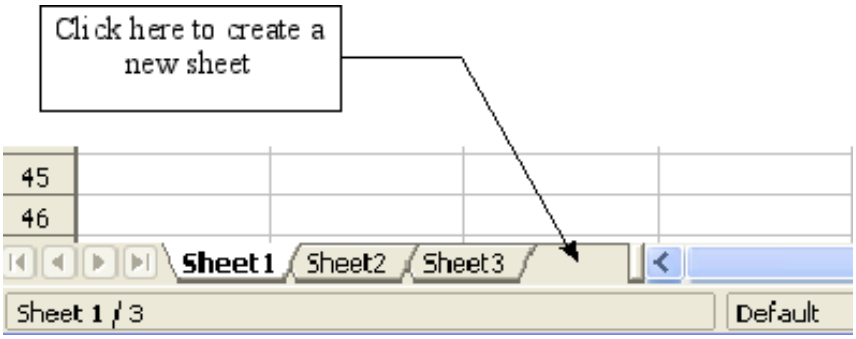


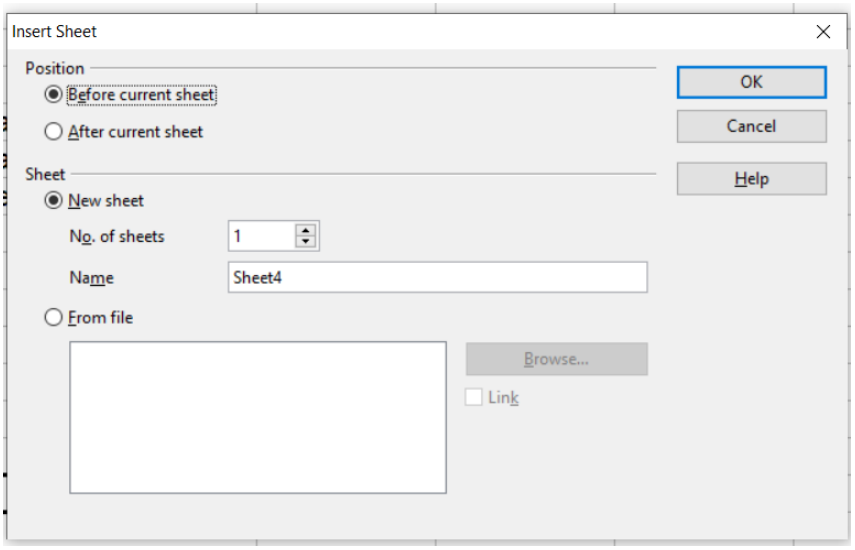
SESSION 2: LINK DATA AND SPREADSHEETS

1) *How can you insert new sheet?*

Select Insert > Sheet from the menu bar, or Right-click on the tab and select Insert Sheet, or Click in an empty space at the end of the line of sheet tabs.

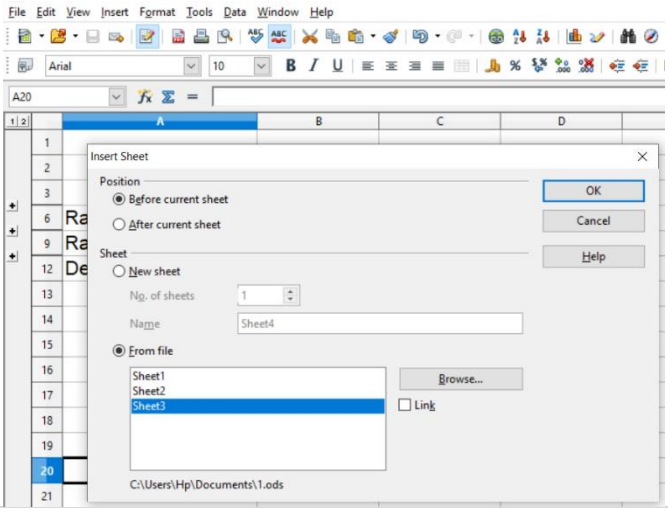






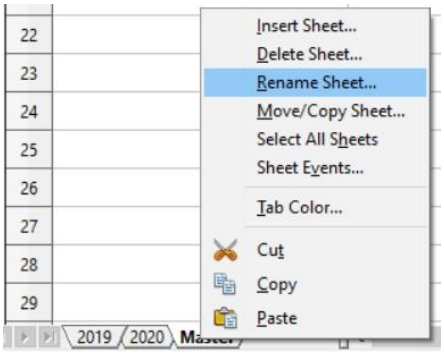
2) *How can you insert a sheet from different spreadsheet can you insert new sheet?*

- Insert menu – sheet option
- Choose from file radio button.
- Browse another worksheet.
- Choose a sheet which you want to add.



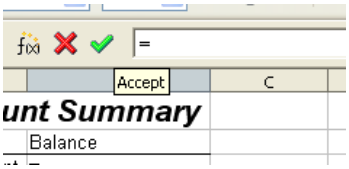
3) *How can you rename a worksheet?*

- Right click on sheet
- Choose Rename Sheet option



4) *How can you create reference with mouse and keyboard?*

- Click on the = icon next to the formula bar. The icons change and an equal's sign appears in the formula bars shown here.



- Now, click on the sheet tab for the sheet containing the cell to be referenced. In this case, that is the Checking Account sheet as shown below.
- Click on cell F3
- Click the green checkmark in the formula bar to finish.

Using Keyboard

Typing the reference is simple once you know the format the reference takes. The reference has three parts to it:

- Path and file name
- Sheet name
- Cell Looking at the figure above, you can see the general format for the reference is ='file:///Path &File Name'#$SheetName.CellName.

5) *Differentiate between absolute and relative hyperlink?*

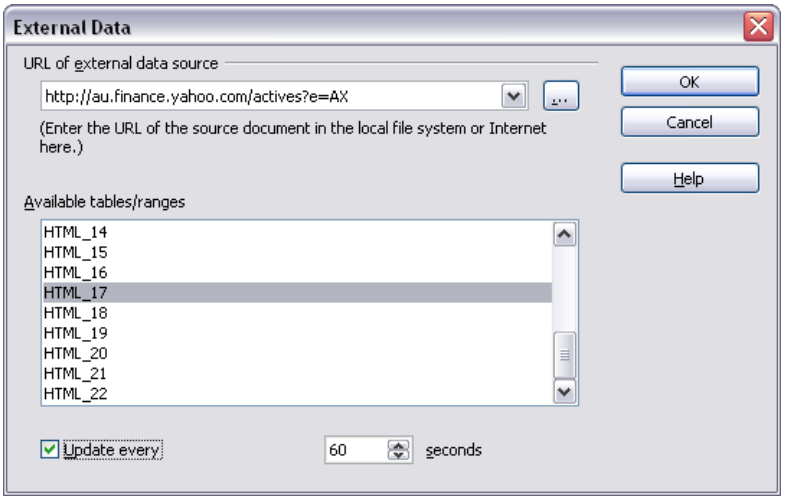
An absolute link will stop working only if the target is moved. A relative link will stop working only if the start and target locations change relative to each other. For instance, if you have two spreadsheets in the same folder linked to each other and you move the entire folder to a new location, a relative hyperlink will not break. To change the way that OOo saves the hyperlinks in your file, select Tools > Options > Load/Save > General and choose if you want URLs saved relatively when referencing the File System, or the Internet, or both. You can insert and modify links using the Hyperlink dialog. To display the dialog, click the Hyperlink icon on the Standard toolbar or choose Insert > Hyperlink from the menu bar. To turn existing text into a link, highlight it before opening the Hyperlink dialog.

6) How to link to external data?

Or

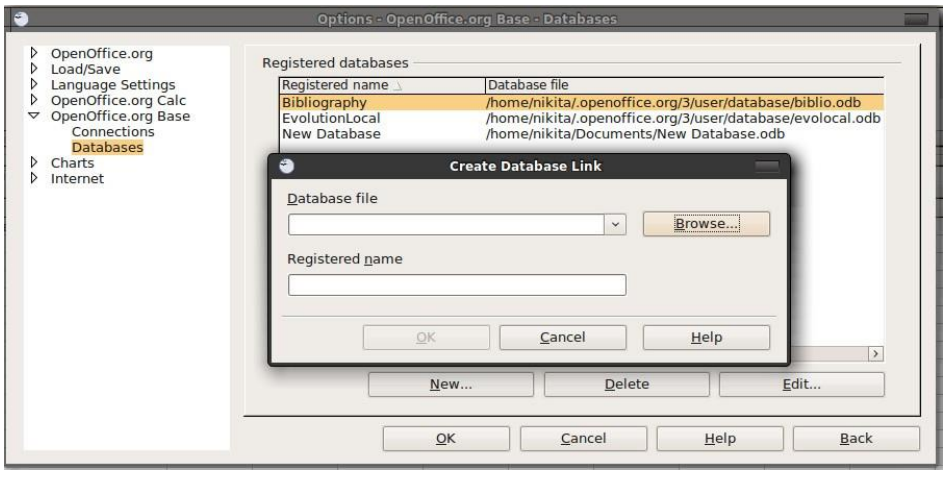
List the procedure involved in Linking HTML Tables to Calc Worksheet.

1. Open the Calc worksheet where the external data is to be inserted. This is the target worksheet.
2. Select the cell where the upper left-hand cell of the external data is to be inserted.
3. Choose Insert -> Link to External Data.
4. On the External Data dialog, type the URL of the source worksheet or click the [...] button to open a file selection dialog. Press Enter to get Calc to load the list of available tables.
5. In the Available tables/range list, select the named ranges or tables you want to insert. You can also specify that the ranges or tables are updated every (number of) seconds.
6. Click OK to close this dialog and insert the linked data.



7) How to link to registered data source?

1. Choose Tools -> Options -> OpenOffice.org Base -> Databases.
2. Click the New button (below the list of registered databases) to open the Create Database Link dialog.
3. Enter the location of the database file, or click Browse to open a file browser and select the database file.
4. Type a name to use as the registered name for the database and click OK. The database is added to the list of registered databases. The OK button is enabled only when both fields are filled in.

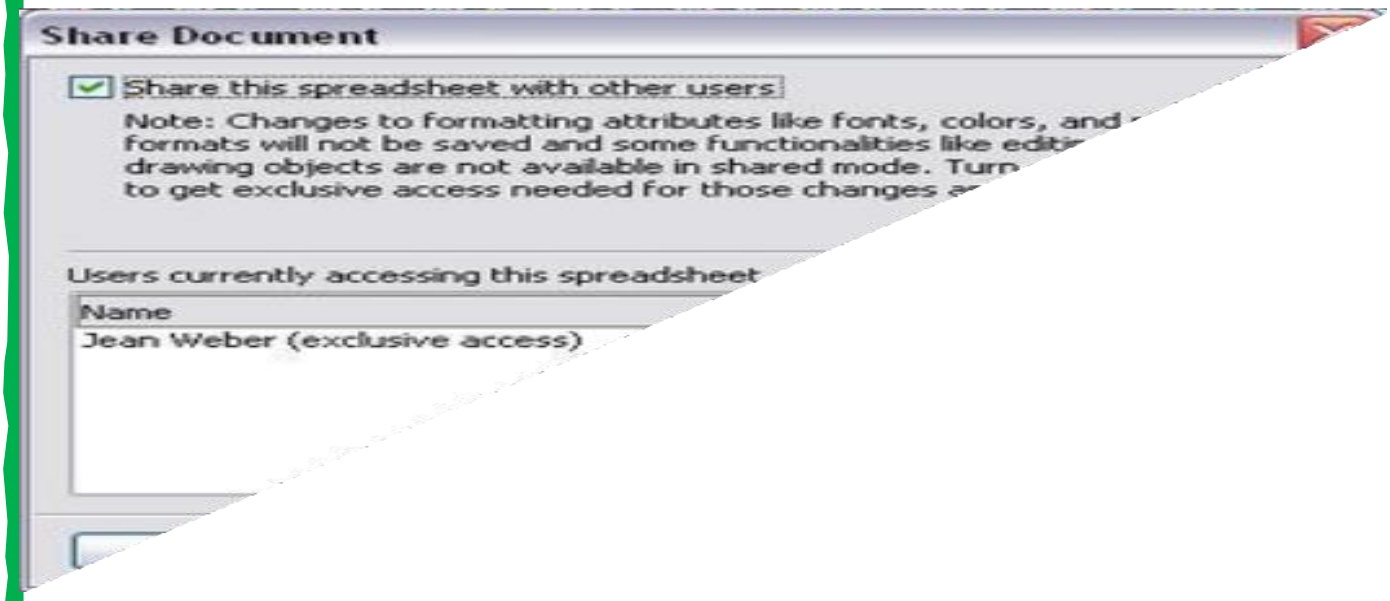


SESSION 3: SHARING WORKSHEET DATA

1) ***How can you set up a spreadsheet for sharing?***

At any time, you can set up a spreadsheet for sharing with others. With the spreadsheet document open, choose Tools > Share Document to activate the collaboration features for this worksheet. A dialog opens where you can choose to enable or disable sharing.

To enable sharing, select the box at the top of the dialog, and then click OK. A message appears stating that you must save the worksheet to activate shared mode. Click Yes to continue. The word (shared) is then shown on the title bar after the worksheet's title.



2) **What are the features that are known to be disabled in a spreadsheet?**

The following features are known to be disabled in a shared spreadsheet:

- Edit > Changes, except for Merge Document
- Edit > Compare Document
- Edit > Sheet > Move/Copy & Delete
- Insert > Cells Shift Cells Down & Shift Cells Right
- Insert > Sheet from file
- Insert > Names
- Insert > Comment
- Insert > Picture > From File

- Insert > Movie and Sound
- Insert > Object ● Insert > Chart
- Insert > Floating Frame
- Format > Sheet > Rename, Tab Color
- Format > Merge Cells > Merge and Center, Merge Cells, Split Cells
- Format > Print Ranges
- Tools > Protect Document
- Data > Define Range
- Data > Sort
- Data > Subtotals
- Data > Validity
- Data > Multiple Operations
- Data > Consolidate
- Data > Group and Outline (all)
- Data >DataPilot

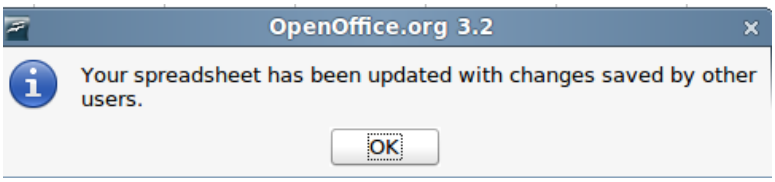
3) Explain the saving a shared spreadsheet.

When you save a shared spreadsheet, one of several situations may occur:

● If the worksheet was not modified and saved by another user since you opened it, the worksheet is saved.

● If the worksheet was modified and saved by another user since you opened it, one of the following events will occur:

● If the changes do not conflict, the worksheet is saved, the dialog below appears, and any cells modified by the other user are shown with a red border.



● If the changes conflict, the Resolve Conflicts dialog is shown. You must decide for each conflict which version to keep, yours or the other person's. When all conflicts are resolved, the worksheet is saved. While you are resolving the conflicts, no other user can save the shared worksheet.

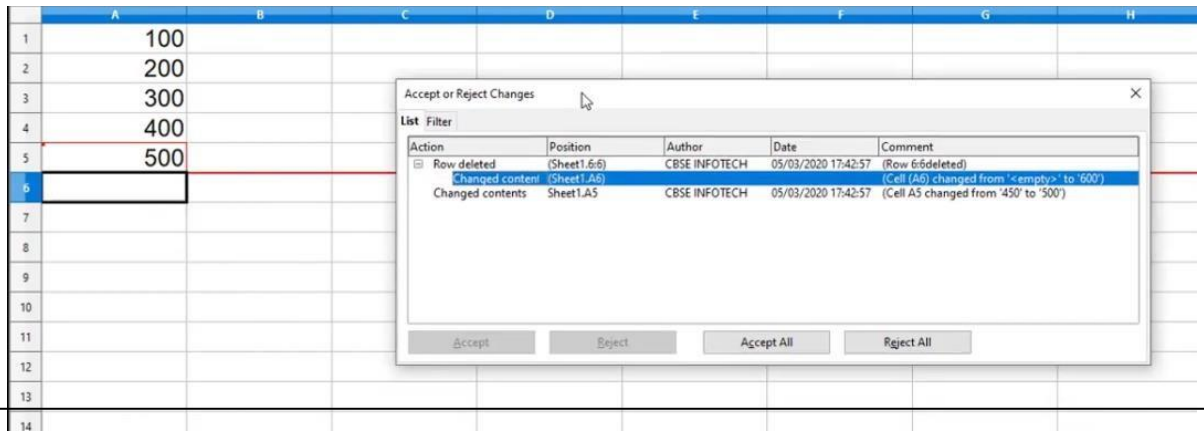
● If another user is trying to save the shared worksheet and resolve conflicts, you see a message that the shared spreadsheet file is locked due to a merge-in in progress. You can choose to cancel the Save command for now, or retry saving later. When you successfully save a shared spreadsheet, the worksheet shows the latest version of all changes that got saved by all users.

4) What do you mean by record changes? Give example.

Calc has the feature to track what data was changed, when the change was made, who made the change and in which cell the change has occurred.

If you are the sponsor of a youth baseball team. The coach has submitted a budget to you for the season and you need to edit the costs and return it to her. You are concerned that if you just make the changes, then the coach won't see the changes you made. You decide to use Calc with the record changes feature turned on, so that the coach can easily see the changes you have made.

Looking Over the Values, Viewing Changes, Adding Comments to Changes, To add a comment to a change:



5) **What is the purpose of adding comments?**

Calc automatically adds to any recorded change a comment describing what was changed (for example, Cell B4 changed from '9' to '4'). Reviewers and authors can add their comments to explain their changes.

6) **How can we add comments to the changes made?**

1. Make the change to the spreadsheet.
2. Select the cell with the change.
3. Choose Edit > Changes > Comments.

The dialog shown below appears. The automatically-added comment provided by Calc appears in the title bar of this dialog and cannot be edited.

4. Type your own comment and click OK.

After you have added a comment to a changed cell, you can see it by hovering the mouse pointer over the cell.

The comment also appears in the dialog when you are accepting and rejecting changes.

7) What do you mean by accepting and rejecting change?

When you receive a worksheet back with changes, the beauty of the recording changes system becomes evident. Now, as the original author, you can step through each change and decide how to proceed. To begin this process:

1. Open the edited worksheet.
2. Select Edit > Changes > Accept or Reject. The dialog shown below opens.
3. Calc steps through the changes one at a time. You can choose to accept or reject each change as you go through.

8) What do you mean by merging worksheet?

Sometimes, multiple reviewers return edited versions of a worksheet at the same time. In this case, it may be quicker to review all of these changes at once, rather than one review at a time. For this purpose, Calc provides the feature of merging worksheets. To merge worksheets, all of the edited worksheets need to have recorded changes in them.

1. Open the original worksheet.
2. Select Edit > Changes > Merge Document.
3. A file selection dialog opens. Select a file you want to merge and click OK.
4. After the worksheets merge, the Accept or Reject Changes dialog opens as shown below, showing changes by more than one reviewer. If you want to merge more worksheets, close the dialog and then repeat steps 2 and 3.

9) What are the steps to compare a document?

When sharing worksheets reviewers may forget to record the changes they make. This is not a problem with Calc because Calc can find the changes by comparing worksheets. In order to compare worksheets, you need to have the original worksheet and the one that is edited. To compare them:

1. Open the edited worksheet that you want to compare with the original worksheet.
2. Select Edit > Compare Document.
3. An open worksheet dialog appears. Select the original worksheet and click Insert. Calc finds and marks the changes as follows:

- All data that occurs in the edited worksheet but not in the original is identified as inserted.
- All data that is in your original worksheet but is not in the edited worksheet is identified as deleted.
- All data that is changed, is marked as changed.

SESSION 4: CREATE AND USE MACROS IN SPREADSHEET

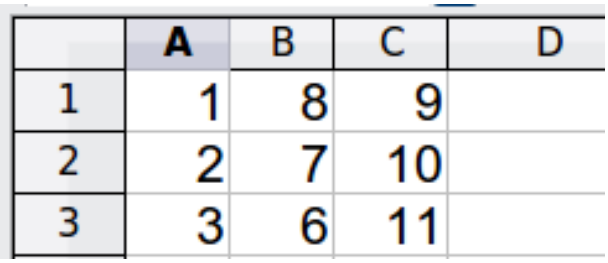
1) What do you mean by Macro?

A macro is a saved sequence of commands or keystrokes that are stored for later use. An example of a simple macro is one that "types" your address. The OpenOffice.org (OOo) macro language is very flexible, allowing automation of both simple and complex tasks. Macros are especially useful to repeat a task the same way over and over again.

2) How can we record a Macro?

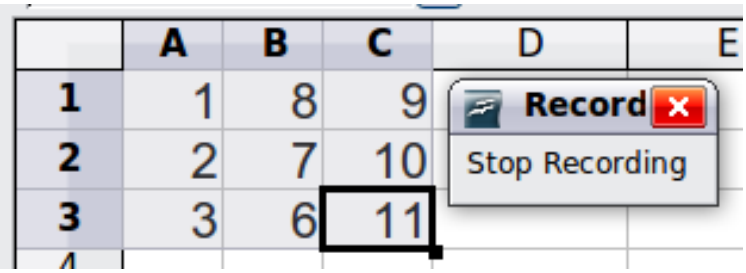
following steps create a macro that performs paste special with multiply.

1. Open a new spreadsheet.
2. Enter numbers into a sheet.

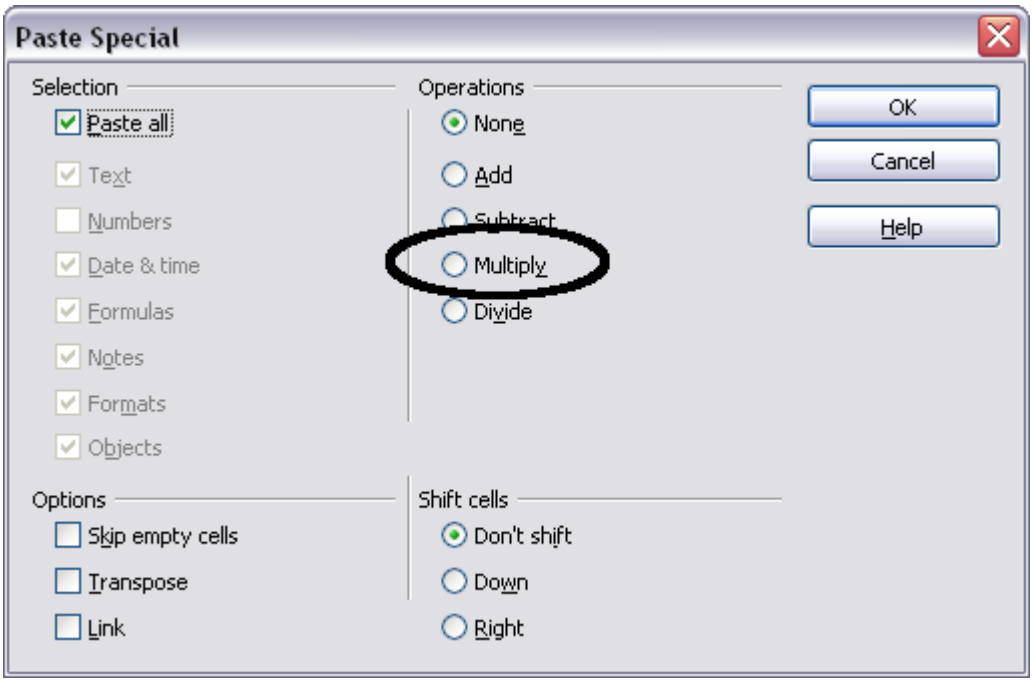


	A	B	C	D
1	1	8	9	
2	2	7	10	
3	3	6	11	

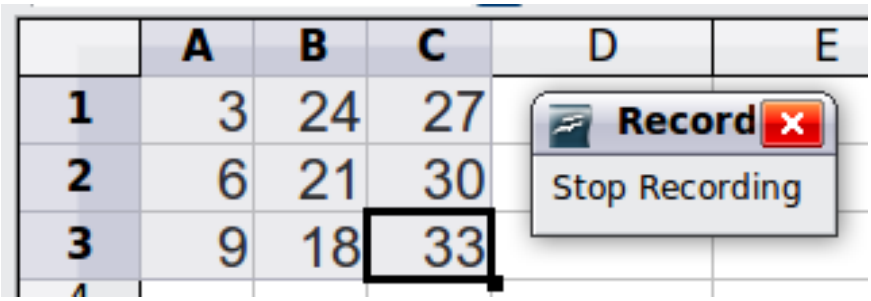
3. Select cell A3, which contains the number 3, and copy the value to the clipboard.
4. Select the range A1:C3.
5. Use Tools > Macros > Record Macro to start the macro recorder. The Record Macro dialog is displayed with a stop recording button.



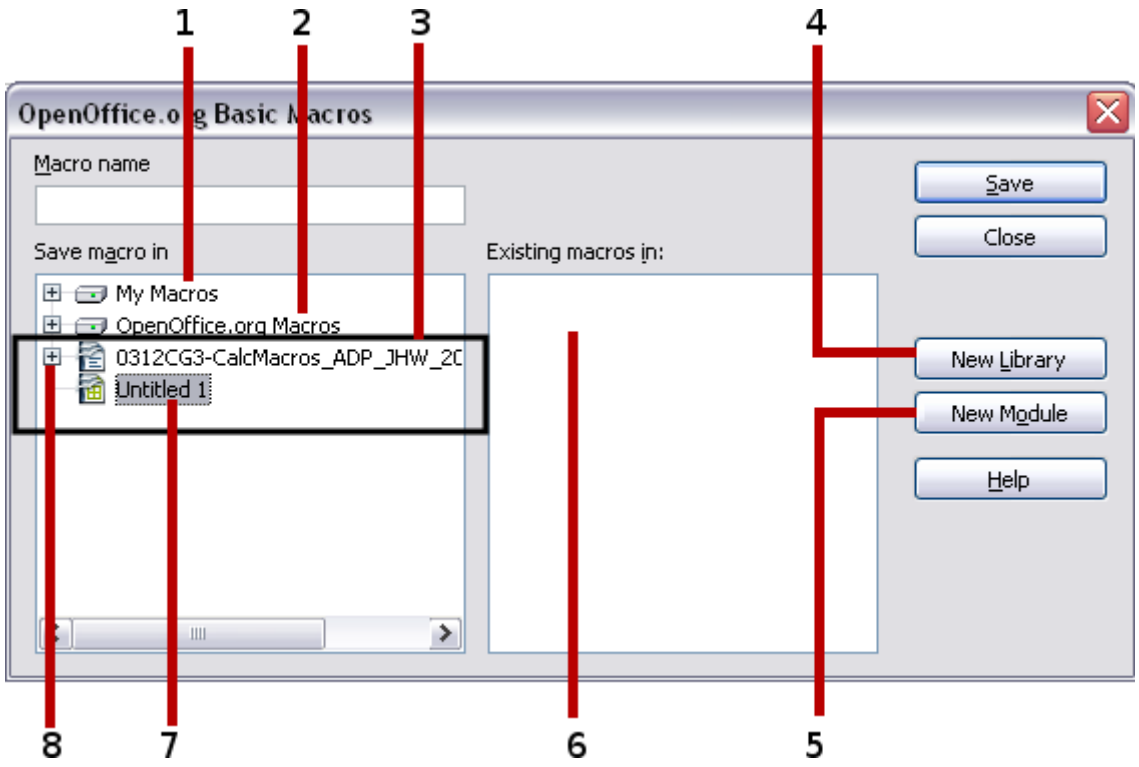
6. Use Edit > Paste Special to open the Paste Special dialog.



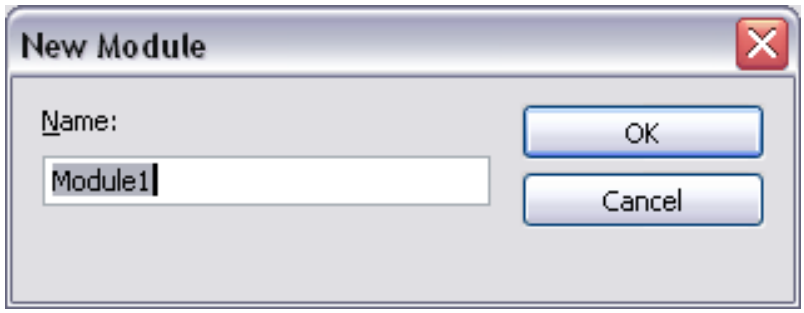
7. Set the operation to Multiply and click OK. The cells are now multiplied by 3.



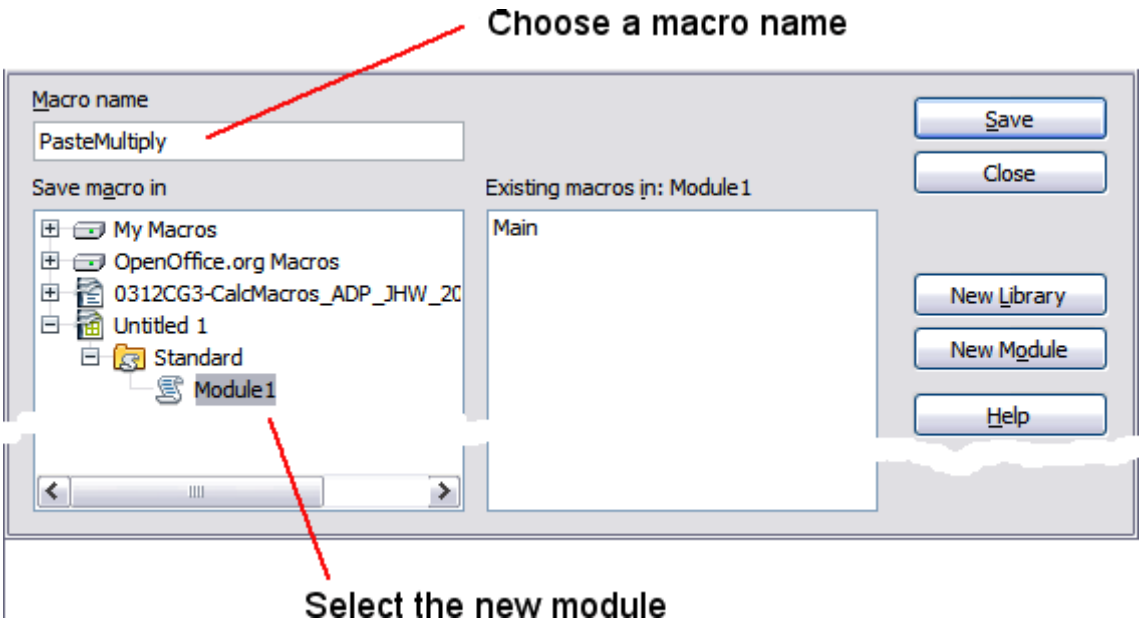
8. Click Stop Recording to stop the macro recorder. The OpenOffice.org Basic Macros dialog opens.
9. Select the current worksheet. For this example, the current Calc worksheet is Untitled 1. Existing worksheets show a library named Standard. This library is not created until the worksheet is saved, or the library is needed, so at this point your new worksheet does not contain a library. You can create a new library to contain the macro, but this is not necessary.



10. Click New Module. If no libraries exist, then the Standard library is automatically created and used. In the New Module dialog, type a name for the new module or leave the name as Module1.



11. Click OK to create a module named Module1. Select the newly created Module1, enter the macro name PasteMultiply and click Save.



12. The created macro is saved in Module1 of the Standard library in the Untitled 1 worksheet

3) What do you mean by sorting?

Sorting data can be automated in Open Office by creating a Macro in Calc. Data can be sorted on a single column or more than one column. Each time the Macro runs the data gets sorted. Such macros can be written using code in Open Office.