FIRAYALAL PUBLIC SCHOOL, RANCHI

Grade-   **XII**   **Module- 2/2**

Subject- English Core   **Chapter- The Third Level**

Link- https://youtu.be/OH3In8JXmpA

https://youtu.be/U08F_MQpWwc

ncert book link http://ncert.nic.in/textbook/textbook.htm?levt1=1-8

extramarks link http://www.extramarks.com/ncert-solutions/cbse-class-12/english-core-the-third-level

NOTE:- Any query related to link and content, text us on the given e-mail-

fpsprincipal2020@gmail.com

Please find herewith the web links of the chapters along with the written assignment we wish you to cover up by the end of this break. The entire assignment will form a part of your subject enrichment assessment and needs to be done in home-work copy. This assignment will be a part of subject enrichment. In case of any clarification please feel free to get in touch with your subject teachers, once the school reopens or else mail it to principal@firayalalpublicschool.com

TUTORIALS:

Class 12 English (Vistas) Chapter 1 - The Third Level

by Jack Finney

About the author:-

Jack Finney(2October 1911-16Nov 1995) was born in Milwaukee, Wisconsin, and given the John Finney. His father died when he was three years old and he was renamed Walter Braden Finney in honour of his father. Yet the nickname Jack remained with him throughout his life. He attended Knox College in Galesburg, Illinois. His best known works are science fiction and thrillers. Two of his novels, 'The Body Snatchers' and 'Good Neighbor Sam' became the basis of popular films. Jack Finney first showed an interest in time travel in the short –story collection. 'The Third Level'. Finney's greatest success came with his science fiction novel 'Time and Again', Finney died of pneumonia emphysema at the age of 84, not long after finishing 'From Time to Time', the sequel to 'Time and Again'.

The Third Level Introduction

The Third Level by Jack Finney is about the harsh realities of war. War has irreversible consequences thus leaving people in a state of insecurity. It is also about modern day problems and how common man tends to escape reality by various means. In this story, a man named Charley hallucinates and reaches the third level of the Grand Central Station which only has two levels.

'The Third Level' is a story that weaves together a psychological journey of the narrator into past, present and moves towards future. There is always a human tendency to constantly move between the past, the present and the future. Past, present and future are strategically interconnected. Man is mortal and has many good and bad aspects of life like love, profit, loss, good, bad, etc. All these aspects tend to affect the human

mind. Then existential worries act like a catalyst for making the human mind constantly move between the past, the present and the future. 'The Third Level' is a study of human mind caught in this cycle of time.

Characters :-

Charley:- Charley protagonist of the story, Charley is a true representative of modern man. He is a victim of stress, insecurity and fear and wants to run away from reality. He is an escapist and wants to escape from the world of harsh realities. He is fond of stamp collection, a hobby, which he takes up to make his leisure hours more productive and fulfilling experience. But his psychiatrist friend calls it a temporary refuge from reality.

Louisa:- Louisa is Charley's wife. She is loving and caring towards her husband. However, she is a simple lady and it is not difficult to take her in. She refuses to accept the psychiatrist's observation that her husband is unhappy. She takes this comment as a personal attack and feels 'kind of mad'. On being told the modern world is full of insecurity, fear , etc. She feels satisfied with the psychiatrist explanation. When Charley talks to her about his predicament regarding the third level, she gets alarmed and

advices him not to look for the third level anymore. Her husband's exchanging the new currency with the old one is a cause of concern for her and she tells Charley emphatically to stop looking for it. When Charley tells her about Sam's disappearance, she joins him in looking for the third level every weekend.

Sam Charley's Psychiatrist friend:- Sam is a psychiatrist by profession. He is a typical city boy. He serves as a proof for the existence of the third level at the Grand Central Station.

The Third Level Summary

The story revolves around a 31 year old man named Charley, who experienced something weird. One day after work coming from the Subway, he reached the third level of the Grand Central station (which doesn't actually exist). He reminisces the entire experience with his psychiatrist friend Sam. Charley thought he experienced time travel and had reached somewhere in the eighteen-nineties, a time before the world saw two of its most deadly wars. As soon as he realised what time he is in, he immediately decided to buy two tickets to Galesburg, Illinois; one for himself and the other for his wife. Unfortunately, the currency used in that century was different. Thus, the next day he withdrew all his savings and got them converted even if it meant bearing losses. He went looking for the third level but failed to find it. It worried his wife and the psychiatrist Sam who told him that he is hallucinating in order to take refuge from reality and miseries of the modern world which is full of worry. Charley thus resorts to his stamp collection in order to distract himself when suddenly one day he finds a letter from his friend Sam who had gone missing recently. Sam wrote that he always wanted to believe in the idea of third level and now that he is there himself, he encourages Charley and Louisa to never stop looking for it.

The Third Level Lesson and Explanation

Stack- a pile of objects, typically one that is neatly arranged
Timetables- a schedule showing the departure and arrival times of trains, buses or aircraft
Waking dream- an involuntary dream occuring while a person is awake
Wander- walk; roam

The story begins with the mention of a third level at the Grand Central Station (which only has two levels in real). The protagonist himself is aware that even the Presidents of New York Central and the New York, New Haven and Hartford railroads would express great confidence in the existence of only two levels but he himself has been to the third level. Considering the entire scenario, Charley, the protagonist had a word with his psychiatrist friend. He explained that Charley was experiencing a waking dream wish fulfilment or in other words, hallucination. According to the psychiatrist, Charley was unhappy (the fact her wife did not like). Upon explaining further, it became clear that it is the burden of all the modern problems that is

pushing him to experience the apparent perception of something not present. He tends to escape the reality. Charley agreed with what his psychiatrist friend had to say but he still found it a bit odd to have been to the third level of the Grand Central Station.

Refuge- the state of being safe or sheltered from pursuit, danger or difficulty

Charley begins to believe in the possibility that he has been experiencing all this to escape the harsh realities of the modern world. His friends agreed to it as well. Even his stamp collecting is a sort of asylum he resorts to in order to feel protected. On the other hand, he starts thinking otherwise. His grandfather started his stamp collection but in those days, they had not seen the consequences of war and there was peace, harmony and security. His grandfather must have not been insecure. The collection, moreover was amazing, with blocks of four of practically every U. S. issue. Even President Roosevelt collected stamps.

He starts explaining what exactly happened and begins with how he chose to take the Subway to his apartment instead of the usual bus after a late night shift. He did this in order to save time.

Gabardine- a smooth, durable, twill-woven worsted or cotton cloth

He describes himself as an ordinary man of 31 dressed in a tan gabardine suit and a straw hat with a fancy band. It was so ordinary that he could see other similar men at the station. He explains how he was in his normal state of mind not wanting to escape from anywhere. All he wanted was to be with his wife Louisa at that hour. He still doesn'€™t understand why this happened with him.

Suburban- residential
Ducked- lower the head or body quickly
Arched- curved
Bumping- knock or run into something

Charley comes to the part of the incident where he entered the Grand Central from Vanderbilt Avenue and took the stairs to the first level where one boarded trains like the Twentieth Century. Then he went down another floor to reach the second level from where the suburban trains leave. From there he entered an arched doorway and got lost. It was nothing unusual for him because even if he had come to that station a thousand times, there were occasions he bumped into new corridors and doorways. Once he entered the wrong lobby and reached Roosevelt Hotel and another time in an office building which was three blocks away.

He wondered that Grand Central was expanding at a very fast rate just like a tree and with its roots. He says that it is no big deal that they even have a secret tunnel under the city to the Times Square or maybe the Central Park. He feels it might be because Grand Central is a place of exit for innumerable people, he also managed to escape reality because of the same reason. Although he never shared it with his psychiatrist.

Angling - tilting

Flickering – glittering

The unusual corridor he had entered into began angling left and slanting downward which he felt odd about but nevertheless, he kept on walking. There was no one except him and the voice of his feet echoed. He finally heard the sound of people talking from a distance, then he took a left and walked down the stairs again only to reach the third level of the Grand Central. He thought he had somehow made his way back to the second level but as he noticed, the room was smaller, there were fewer ticket windows and train gates, and the information booth in the centre was wood and old looking. The man in the booth was also different and the station was dim-lit for there were open-flame gaslights.

Spittoons - a metal or earthenware pot typically having a funnel-shaped top, used for spitting into

Glint - sparkle

Snapped - break suddenly and completely

Frowned - 'knit your brow' in:

Lapels – collar, neckline

Handlebar mustache –handle shaped moustache or beard

Vest- a garment worn on the upper part of the body
Locomotive- a powered railway vehicle used for pulling trains

Charley could see brass spittoons everywhere when suddenly a glimpse of light caught his eye and he saw a man pulling his gold watch from the vest. He was dressed in an old-fashioned style. Suddenly, he noticed that everyone was dressed like the nineteenth century. It was basically the time before deadly wars. So many beards and fancy mustaches all around, something that the protagonist had never seen before. He even saw a very small Currier & Ives locomotive which made him sure about which time he is in.

President Cleveland- Stephen Grover Cleveland was an American politician and lawyer who was the 22nd and 24th president of the UnitedThe first democrat elected after the Civil war,Grover Cleveland was the only president to leave the White House and return for a 2nd term four years later(1885-1889 and 1893-1897)

To validate his suspicion, he went over to the newspaper boy who was selling. The World a newspaper which was discontinued years ago. There were some headlines about the then President Cleveland. The date on the front page was also June 11, 1894. He was now sure.

Bills –currency

Try to skin – try to cheat

Immediately, he went to the ticket window to get the tickets for Galesburg, Illinois for him and his wife. It was a wonderful town with a lot of greenery. He was well aware that from here one could buy tickets that would take them anywhere in the United States. He describes how things were in 1984 before the two World

Wars took place. Evenings were twice as long as they are now and men and women living in peace and serenity.As the clerk calculated the fare, he looked at Charley's fancy hatband. Charley just had enough for one sided journey. Just as he took out money, the clerk informed that this is not the acceptable legal tender and by any chance if he tried to be smart, he won't be able to get away with it. He glanced at his cash drawer and realised that currency used back then was different and almost double the size. He ran out because he didn't want to go to jail.

The day ended after he came out. The next day he went to withdraw his entire savings and got them converted into old money by paying some amount of premium. It cost him much and even worried his psychiatrist friend but he still went with it. Back then, eggs cost thirteen cents a dozen.

But unfortunately he could never find the way to the third level corridor again despite hard efforts. His wife Louisa was pretty worried when she got to know about it all. After a while, he went back to finding distractions with the help of stamps. Somehow, Sam, the psychiatrist disappeared out of the blue. Charley suspected that he had gone to Galesburg. He finds himself in the time space of 1894.

 That night he found by surprise one of his grandfather's old first day covers. Someone had mailed it to his father at his home at Galesburg, as he saw from the address on the envelope. The post mark showed that it had been there since July 18, 1894. The stamp had a picture of President Garfiled on it. It was a six cent, dull brown colour stamp. His grandfather had put it in his stamp collection and the Charley now discovered it. The paper inside and a letter written in it. The letter read as:

 The letter talked about how the writer wished his third level story was true until he actually started believing it to be true. He had found the third level and had been there for two weeks. He describes the place he was at that time. He asks Charley and Louis to never stop searching for the third level and come back.

941 Willard Street
Galesburg, Illinois
July 18, 1894

Charley
    I got to wishing that you were right. Then I got to believing you were right. And, Charley, it's true; I found the third level! I've been here two weeks, and right now, down the street at the Daly's, someone is playing a piano, and they're all out on the front porch singing 'Seeing Nelly Home.' And I'm invited over for lemonade. Come on back, Charley and Louisa. Keep looking till you find the third level! It's worth it, believe me!

 The letter had been signed off as Sam. Charlie found out from the coin store that he used to visit that Sam had bought old currency worth eight hundred dollars., which was to be utilised in a hay, feed and grain business, which what he always wished to do. He could not go back to his old business certainly not in Galesburg, Illinois. The story ends at a mysterious note where Charlie is wondering that Sam is psychiatrist.

A Quick Revision

Description of the Third level

- Small room, few ticket windows and train gates, wooden and old looking information booth.
- Men had beards, sideburns, fancy moustaches
- Women wore skirts, high buttoned shoes and leg of muttons sleeves.
- A man looking at a pocket watch
- Old style locomotive with the funnel-shaped stack
- Open gaslights being used
- Brass spittoons on the floor
- Wants to visit his home town, Galesburg
- Past is quiet and peaceful
- Tries to buy two tickets to Galesburg (one ticket for his Wife Louisa)
- Clerk grows suspicious as Charlie doesn't have old-style currency.
- Back to the present-day world

People's reaction to Charlie's experience

- Presidents of NY railroads swear on the existence of two levels.
- Psychiatrist friend Sam refuses to believe
- Interprets it as an escape from insecurity fear, war and worry of the modern world.
- Louisa too disbelieves Charlie

Charlie's determination to find the Third Level

- Withdraws money buys old currency worth 300 dollars.
- Fails to find the Third Level
- Louisa and Psychiatrist worried

Unexpected Ending

Sam disappears

- Charlie finds a first-day cover, never seen before
- Note from Sam dated 18th July 1894 from Galesburg
- Sam asks Charlie and Louisa to come to Galesburg and enjoy a quiet and peaceful life.
- Charlie discovers Sam had bought old currency worth 800 dollars.
- Enough to help him start hay and grain business in 1894 at Galesburg

The Third Level Question and Answers

Read and Find out
1. What does the third level refer to?

2. Would Charley ever go back to the ticket-counter on the third level to buy tickets to Galesburg for himself and his wife?

Read with insight

1. Do you think that the third level was a medium of escape for Charley? Why?

2. What do you infer from Sam's letter to Charley?

3.The modern world is full of insecurity, fear, war, worry and stress. What are the ways in which we attempt to overcome them?

4. Do you see an intersection of time and space in the story?

5. Apparent illogicality sometimes turns out to be a futuristic projection? Discuss.

6. Philately helps keep the past alive. Discuss other ways in which this is done. What do you think of the human tendency to constantly move between the past, the present and the future?

Some practice questions:-

1. What will the President of the New York Central and the New York, New Haven and Hartford railroads swear? What did the narrator claim?
2. Why did the narrator talk to a psychiatrist friend of his and what did he say about the third level?
3. How did the narrator's psychiatrist friend analyze his claim of being at the third level of Grand Central Station?
4. What did the narrator's friends say about him? What did his stamp collecting point to?
5. What did the narrator say about his escapism from the real world?
6. The narrator thinks that the Grand Central is growing like a tree. What makes him think so? Why has it been 'an exit'?
7. How did the narrator get lost when he was heading for the sub-way?
8. How did the narrator come out on the third level at grand Central Station after he had lost the way?
18. What did the narrator see unusual at the third level?
19. Describe Galesburg Illinois in 1894. Why did the narrator want two tickets to Galesburg, Illinois?
20. "That ain't money, mister" said the clerk to the narrator. Why did he warn the Narrator?
21. How did the narrator get the old-style currency? Why couldn't he buy two tickets for Galesburg in spite of having the currency used in 1894?
22. Why was the narrator's wife Louisa worried?
23. What is a first day cover? Explain.
24. What strange thing was found among the oldest first day covers? How did it come there?
25. What was written in Sam's letter to Charley?
26. Why couldn't Sam go back to his old business?
27. What does Charley's psychiatrist friends say about his visit to the third level?
28. What do Charley's friends think about his stamp collection?
29. Why does Charley compare the Grand Central Station to a tree?
30. How does Charley find himself on the third level at the Grand Central Station?
31. What peculiar things does Charley notice on the third level?
32. Do you think that the third level at the Grand Central was a medium of escape? If yes, how?
33. Why is the clerk surprised when Charley starts counting the money?
34. What does Charley do after he leaves the third floor?
35. Could he go to the third floor again to buy tickets for him and his wife?
36. What is a 'first-day cover'? How is it collected?
37. What strange thing does Charley find in his stamp collection?
38. Who wrote that letter and to whom?
39. What was written in the letter that Sam wrote to Charley in 1894?
40. What happens to his friend Sam? Where does Charley suspect him to be?
41. What is the most revealing fact about Sam?
42. The Grand Central Station has only two levels. Charley said there were three. What did his psychiatrist friend think?
43. What did the psychiatrist think about Charley's stamp-collection? Why did Charley not agree with him?
44. How was Charley often lost on the Grand Central Station?
45. How did Charley reach the third level?
46. How did Charley realize that he was on the third level?
47. How did Charley make sure that he had actually travelled in the past?
48. Why did Charley rush back from the third level?
49. Why did Charley want to go to Galesburg?
50. How did Charley prepare to go to Galesburg? Why couldn't he reach there?
51. How did Charley learn that his psychiatrist friend had reached Galesburg of 1894?
52. What did Sam write to Charley from Galesburg?
53. Why does Charley think Sam escaped to Galesburg?
54. How do you find the ending of the story surprising?

LONG ANSWER TYPE QUESTIONS

1. What does the third level refer to? Is it a medium or a way of getting away from the unpleasant and insecure present forgetting your normal life?

2. How did Charley stumble into the third level at Grand Central Station? Describe his experience there?

3. Describe Charley. Do you think his being on the third level at Grand Central Station was a waking-dream wish fulfillment? What did his stamp collecting point to?

4. 'The Third Level' at the Grand Central Station is nothing but a convenient excuse for escapism. Justify the statement.

5. Describe Charley's character with special reference to his escapist tendency.

6. Describe Charley's impression of the world he encounters on the third level at the Grand Central Station. Why couldn't he buy tickets to Galesburg?

7. How has Jack Finney interwoven fantasy and reality in 'The Third Level'? Also highlight the interaction of space and time in the story.

8. Charley wanted to go home quickly but he reached the third level. How did he get there?

9. What was the third level like? How did Charley know he had bumped into the past?

10. Why did Charley come back from the third level? What did his psychiatrist friend think about his experience?

11. Sam's letter to Charley is a fine blend of reality and fantasy. Comment.

Learning Outcome:-

Students will learn to analyze Jack Finney's word choices and the text structure of 'The Third Level'.

Grade- XII/Commerce/Economics   **Module- 2/1**

Book- Indian Economic Development

Chapter- 2/ Indian Economy 1947-1990

Link- www.extramarks.com

www.mycbse.nic.in

Please find herewith the web links of the chapters along with the written assignment we wish you to cover up by the end of this break. The entire assignment will form a part of your subject enrichment assessment and needs to be done in home-work copy. This assignment will be a part of subject enrichment. In case of any clarification please feel free to get in touch with your subject teachers, once the school reopens or else mail it to principal@firayalalpublicschool.com

TUTORIALS:
In this module we shall learn about the NAS scheme, State of Industrial sector with special reference to Industrial Policy Resolution 1956, the role of SSI and lastly about the import substitution policy.

NAS (New Agricultural Strategy)

Parallel to the land reforms was the introduction of NAS in which emphasis was given on improving the agricultural productivity means of:

(1) Rapid technology modernization through use of High Yielding Variety (HVY) seeds
(2) Irrigation
(3) Chemical fertilizers and pesticides
(4) Delibrate investment crop wise (especially wheat) and region wise (the ones that have better facilities) so that high returns can be taken

Green Revolution / HYV introduced as a package programme in NAS

The period of mid 1960s was very significant from the point of view of agriculture. During this time, India put into practice for the first time in the kharif season (July-october) of 1966 the High-Yeilding Varieties Programme (HYVP). This practise was introduced as a package programme involving high yielding varieties of seeds, irrigation facilities, fertilizers and good quantity of

pesticides and insecticides. Thus, it led to a remarkable increase in the agricultural production and productivity over a number of years (especially in wheat). This period was termed as Green Revolution. The Father of Green Revolution is Dr. Norman Borlaug of Mexico for which he received a Nobel Peace Prize in 1970. The higher success was achieved by the states of Punjab, Haryana and Uttar Pradesh. The Indian economy became self sufficient in food grains. During 1980s, new high yielding varieties were discovered for other crops as well due to the production of rice, oilseeds and some pulses rose significantly..

Benefits of Green Revolution:

1. It helped in increasing the income of farmers as the agricultural production increased.
2. The farmers received better price for their produce due to increased marketed surplus.
3. It helped in building up the buffer stock which could be used to meet food grains requirement in times of shortage.

Drawbacks of Green Revolution:

In the initial period of Green Revolution, only those benefited from this strategy who could afford to buy all the package programme inputs that were required. The small and marginal did not benefit much from this programme. Thus, it led to an increase in income inequalities between small and rich farmers.

The Question of Agricultural Subsidies

In order to narrow the widening gap between small and rich farmers, the Indian Government adopted the policy of providing subsidies on the agricultural inputs to reduce their cost. The important subsidies in this regard were FERTILIZER SUBSIDY, , PESTICIDE SUBSIDY and FOOD SUBSIDY (i.e Public Distribution System of providing inputs at cheap prices). This initiative helped the small and marginal farmers' a lot and they also started reaping the benefits from Green Revolution. Over a period of time these subsidies have risen to very high levels leading to burden on the government finances. Thus, many economists argued that these subsidies should be cut down considerably. However, this was not possible because of the following reasons:

1. These subsidies ensure maintenance of India's food security system so that poor are not left behind empty stomach.
2. These subsidies enable poor farmers access to agricultural inputs necessary for increasing their agricultural produce thereby maintaining their daily livelihood.

Case against subsidies

1. The amount of subsidies rose to higher levels thereby posing burden on government finances.
2. Their benefits went to large farmers and the industry. The small and marginal farmers did not benefit much from it.
3. The food subsidy led to huge accumulation of stock of foodgrains.
4. The food subsidy was confined to wheat and rice only.

Concepts of Marketed Surplus, APC and FCI

The era of Green Revolution led to a remarkable increase in agricultural production and productivity.

After meeting their consumption requirements, the farmers offer the rest of their agricultural production for sale in the market. This portion is called marketable surplus.

A mechanism was thus required to ensure that the farmers sell an increasing level of their foodgrains at fair prices in the market. The government, therefore, set up an AGRICULTURAL PRICES COMMISSION (APC) in 1965. The purpose of this commission was to announce remunerative prices at which the government would purchase foodgrains from the farmers. . These prices were called procurement prices and minimum support prices.

FCI (Food Corporation of India) was also set up in 1965 to act on behalf of the government. This body procures food grains from the farmers at *higher prices* and keeps their ample stock with itself to supply to the consumers at *cheap prices* through PDS or ration shops. The difference between the *two prices* is called ***food subsidy***.

B) INDUSTRY SECTOR During 1947-1990

During the second five year plan, the GOI kept one-fifth of total resources for the development of Industrial sector. The government thus came up with three important documents to determine the path of industrial growth:

1. Industrial Policy Resolution (IPR), 1948
2. Industries Development and Regulation Act (IDRA), 1951
3. Industries Policy Resolution, 1956

Let us discuss them briefly one by one:

1. **Industrial Policy Resolution (IPR), 1948**

This resolution was issued by Government of India(GOI) on 6th April, 1948. It accepted the importance of both private and public sector for economic development. ***It divided the industries into four categories.*** Three industries out of the four were reserved only for the Government sector i.e. Arms and ammunition, atomic energy and rail transport. Importance was also given to development of small and cottage industries for creating employment opportunities.

2. **Industries Development and Regulation Act (IDRA), 1951**

This act came into force on8th May 1952. Its main obejectives were regulation of industrial investment, protection of small and cottage industries, prevention of monopolies and balanced regional development. Private sector in many reas were required to obtain licences.

3. **Industrial Policy Resolution, 1956**

This resolution divided the industries into three categories:

1. Schedule A industries: Of the 17 industries listed in schedule A of this Act, 4 industries – arms and ammunition, atomic energy, rail transport and air transport were to be government monopolies.
2. Schedule B industries: Out of the 12 industries listed in schedule B, like road transport, sea transport, machine tools, fertilizers, chemicals etc. Private sector industries could also expand along with government industries.
3. Industries left for private sector: All the industries not listed in the schedule A and schedule B were left open to the private sector. However, even here the government could start any industry in which it was interested.

Small Scale Industry

A small scale industry is one that is generally defined on the basis of the fixed capital investment in a unit. In 1950, a small scale industrial unit was one which invested a maximum of Rs. 5 lakh in fixed assets. This limit was raised to Rs. 10 lakh in 1977, Rs. 60 lakh in 1991 and Rs. 1 crore in 2000. These industries played a crucial role in Industrial sector:

1. It provided employment to the largest number of people.
2. It ensured equitable distribution of national income and wealth as these industries were more in number and thus provided more employment opportunities.
3. A large number of entrepreneurs and skilled people are spread over small towns and villages in the country. Thus, these SSIs can easily mobilize the savings of these people by setting their industries in small towns.

4. SSIs are set to satisfy the local demands and these can be spread all over the State very easily. Thus, they help even to reduce regional inequalities.

All the above stated reasons, the GOI took following measures:

1. Increase in the number of items reserved for small scale industries.
2. Liberal financial assistance from commercial banks and other institutions
3. 'Tiny' units were identified for granting special incentives.
4. Enhanced availability of raw material
5. The value of import licenses issued to SSI was increased so that they can import their requirements easily.
6. A number of items in the government purchase programme could be purchased only from the small scale units.
7. A large number of institutions were set up to help and promote the SSIs like Small Industries Development Organization (SIDO),.

A review of the performance of the Industrial Sector

1. The share of the industrial sector in GDP increased from 16.1% in 1950-51 to 27.7% in 1990-91.
2. The industrial development led to improving infrastructure facilities like power, transport and communications in the Five year plans.
3. There was diversification of industries **from** being consumer goods industries like jute, cotton, textiles **to** heavy engineering goods industries like iron and steel, metals and metal-based product industries.
4. The public sector held a strong position in the development of industrial sector since it provided the industries the huge investments needed. The private sector was not in a position to take up all this work efficiently in post Independent era. It neither had investment money nor could it wait for the completion of industries and enjoy the returns on their investment. However, the performance of the public sector was not all that satisfactory. Many units suffered losses year after year. The government also interfered in the day to day working of these units making them inefficient,
5. The licensing system for setting up industries or even expanding them led to large scale misuse of powers, corruption, and allegations of favoritism. There were no clear guidelines laid down for the private sector. Thus, even private sector established only those industries which appeared more profitable to them.

C) Trade Policy: Import Substitution in Foreign trade/ Inward looking trade policy

Indias trade policy during the period 1950-90 mainly focussed on import substitution. This means that India would be producing in the domestic economy itself those goods and services which the country has to import. This can protect domestic industries in two ways:

1. By imposing high tariffs on industrial goods, it will discourage the import of these goods and encourage domestic entrepreneurs to encourage them.
2. By fixing the quotas of the industrial goods that can be imported, this will limit their imports and encourage the domestic production.

This policy helped in creating employment opportunities, strong industrial structure, icrease in exports and also saving the foreign exchange but somewhere it was misused by the domestic industries. They started playing with the quality of domestically produced goods and somewhere it also led to creation of monopolies.

Learning Outcome:

After studying the module, the students will be able to:

1. Understand the concepts of green revolution and how it helped farmers in overcoming their crisis.
2. Learn the full forms of various terms like NAS, SSI, GOI etc.
3. Understand the pace of industrial development and the importance of SSI in our growth
4. Appreciate the role of Public sector in making huge investment outlay.
5. Appreciate the way goal of self sufficiency was obtained with the help of import substitution policy

Assignment:

1. Define the following terms: (1marks each)
    a. Green revolution
    b. Marketed surplus
    c. Import substitution
    d. High Yeilding Variety seeds
2. Write the full form of the following: (1 marks each)
    a. HVY
    b. PDS
    c. FCI
    d. NAS
    e. IRDP
    f. SIDO
    g. SSI
3. "An equally strong case can be made in favour of and against agricultural subsidies". Do you agree? Give Reasons. (4 marks)
4. Make a case for helping the growth of small scale industries. (4 marks)
5. All the questions of NCERT.

Grade- 12 COMMERCE   **Module- 2/1**

SUBJECT :- ACCOUNTANCY

CHAPTER NAME :- ACCOUNTING FOR PARTNERSHIP FIRM'S

TOPIC :-   INTEREST ON DRAWINGS

Link:- **https://youtu.be/6ciTghJ404o**

      https://youtu.be/e67NcqiR0yE

Tutorials:-

4. INTEREST ON PARTNERS' DRAWINGS

Drawings mean the amount withdrawn, in cash or in kind, by partners for their personal use. Drawings may be out of capital or against profit. Both are discussed below:

Drawings against Capital

Drawings against capital is withdrawal of amount out of his or her capital in the firm. Drawings against capital is debited to his or her Capital Account. It means that the capital is reduced by the amount withdrawn.

Interest on capital is allowed on capital for the period it is used in business. As a result of drawings against capital, interest on capital is not allowed to a partner on withdrawn amount.

For example, Anmol (partner) has capital of ₹ 5,00,000 on 1st April, 2019. He withdraws ₹ 1,00,000 on 1st October, 2019 out of his capital. If the Partnership Deed allows interest on capital @ 10% p.a., Anmol will get interest of ₹ 45,000 on capital for the year ended 31st March, 2020, calculated as follows:

On ₹ 5,00,000 @ 10 p.a. for 6 months (1st April, 2019 to 30th September, 2019)	₹ 25,000
On ₹ 4,00,000 (i.e., ₹ 5,00,000 – ₹ 1,00,000) @ 10% p.a. for 6 months (1st October, 2019 to 31st March, 2020)	₹ 20,000
Total Interest	₹ 45,000

Drawings against Profit

Drawings against profit means drawings by a partner against his or her expected share of profit for the year. Drawings against profit is debited to Drawings Account and not to the Capital Account of the partner. Actual share of profit of a partner is known at the end of the year and is the date when it becomes due to the partner. Since, withdrawal is earlier than it is due, the firm charges interest for the period amount is withdrawn by the partner.

Difference between Drawings Against Capital and Drawings Against Profit

Basis	Drawings Against Capital	Drawings Against Profit
1. **Where Debited**	It is debited to Capital Account.	It is debited to Drawings Account.
2. **Part**	It is against capital.	It is against expected profit.
3. **Effect**	It reduces capital.	It does not reduce capital.
4. **Interest on Drawings**	It is not considered for calculating interest on drawings.	It is considered for calculating interest on drawings.
5. **Interest on Capital**	It is considered for calculating interest on capital.	It is not considered for calculating interest on capital.

Interest is charged on drawings against expected profit if the Partnership Deed provides for charging interest on drawings. Interest charged on drawings is transferred to Profit and Loss Appropriation Account and debited to Partners' Capital Accounts (in case of Fluctuating Capital Accounts Method) or Partners' Current Accounts (in case of Fixed Capital Accounts Method). Journal entries passed for interest on drawings are:

Partner's Capital/Current A/c ...Dr.	
To Interest on Drawings A/c	
(Interest charged on drawings)	

Interest on Drawings A/c ...Dr.	
To Profit and Loss Appropriation A/c	
(Interest on Drawings transferred)	

Illustration 26.

Chhavi and Neha were partners in a firm sharing profits and losses equally. Chhavi withdrew a fixed amount at the beginning of each quarter. Interest on drawings is charged @ 6% p.a. At the end of the year, interest on Chhavi's drawings amounted to ₹ 900.

Pass necessary Journal entry for charging interest on drawings.   (CBSE 2019)

Solution:

JOURNAL

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
	Chhavi's Capital/Current* A/c ...Dr.		900	
	To Interest on Drawings A/c			900
	(Interest on drawings charged)			

*In case of Fixed Capitals.

Interest on amount of drawings is charged on the amount of drawings from the date of withdrawal (drawing) till the end of the financial year.

Calculation of Interest on Drawings

Drawings by a partner may be broadly divided into:

(i) *Irregular Drawings:* It means drawings of same amount or different amounts at irregular intervals; and

(ii) *Regular Drawings:* It means drawings of same amount at regular intervals.

Interest on Drawings when drawings are made at irregular period or of different amounts, *Product Method* of calculating interest is followed. And when drawings are made of same amount at regular intervals, interest on drawings is calculated using *Average Period Method*. The two methods of calculating interest on drawings are:

I. Product Method; and

II. Average Period Method.

Both the methods are discussed below:

I. **Product Method:** When *unequal amount* is withdrawn at different dates or when there is irregular drawings, interest on drawings is calculated with the help of *Simple Method* or *Product Method*.

Simple Method: Under this method, interest on drawings is calculated for the period the amount is drawn. The interest is calculated with reference to each drawing.

Product Method: Under this method, the amount of drawings is multiplied with the number of months or number of days (as the case is) it is drawn. The product so obtained is totalled and interest is calculated thereon for one month, if the period taken is in months and for one day, if the period taken is in days.

Formula: Interest on Drawings = Total of Product $\times \dfrac{\text{Rate of Interest}}{100} \times \dfrac{1}{12}$ or $\dfrac{1}{365}$.

Illustration 27 (*Calculation of Interest on Drawings by Simple Method and Product Method*).

In a partnership, partners are charged interest on drawings @ 15% p.a. During the year ended 31st March, 2020, a partner withdrew as follows:

Date	1st May, 2019	1st August, 2019	30th September, 2019	31st January, 2020	31st March, 2020
Amount (₹)	2,000	5,000	2,000	6,000	2,000

What is the interest chargeable from the partner?

Solution:

(i) *Simple Method*

Date	Amount (₹)	No. of Months up to 31st March, 2020	Interest @ 15% (₹)
1st May, 2019	2,000	11	275 *
1st August, 2019	5,000	8	500
30th September, 2019	2,000	6	150
31st January, 2020	6,000	2	150
31st March, 2020	2,000	0	0
	17,000		1,075

*Interest = ₹ 2,000 × 15/100 × 11/12 = ₹ 275.

(ii) *Product Method*

When drawings are made in unequal amounts at different dates, interest on drawings is calculated by Product Method as follows:

A Date	B Amount (₹)	C No. of Months up to 31st March, 2020	D = B × C Product (₹)
1st May, 2019	2,000	11	22,000
1st August, 2019	5,000	8	40,000
30th September, 2019	2,000	6	12,000
31st January, 2020	6,000	2	12,000
31st March, 2020	2,000	0	0
	17,000		86,000

Interest on ₹ 86,000 @ 15% p.a. for one month is $\dfrac{₹\,86,000 \times 15 \times 1}{100 \times 12}$ = ₹ 1,075.

II. Average Period Method: *This method is used when there is regular drawings or when:*

(a) *the amount of drawings is uniform; and*

(b) *the time interval between the two drawings is also uniform.*

The formula for calculating interest on drawings under this method is:

$$\text{Interest on Drawings} = \text{Total Drawings} \times \frac{\text{Rate of Interest}}{100} \times \frac{\text{Average Period}^*}{12}$$

$$^*\text{Average Period} = \frac{\text{Months Left after First Drawing} + \text{Months Left after Last Drawing}}{2}$$

Let us take **Different situations** for calculating interest on drawings under this method.

Situation 1. If a partner withdraws *fixed amount* in the *beginning of every month*, interest is charged on the whole amount for 6½ months*.

$$\text{Interest on Drawings} = \frac{\text{Total Drawings} \times \text{Rate of Interest}}{100} \times \frac{6\frac{1}{2}}{12}$$

*This is the average of months = (12 + 11 + 10 + ... + 1) ÷ 12 = 78 ÷ 12 = 6½ Months.

Or

$$\text{Average Period} = \frac{12\ \text{Months} + 1\ \text{Month}}{2} = 6\frac{1}{2}\ \text{Months}.$$

Situation 2. If a partner withdraws *fixed amount* at the *end of every month*, interest is charged for 5½ months (*i.e.,* average period) on the total amount.

$$\text{Interest on Drawings} = \frac{\text{Total Drawings} \times \text{Rate of Interest}}{100} \times \frac{5\frac{1}{2}}{12}$$

$$\text{Average Period} = \frac{11\ \text{Months} + 0\ \text{Month}}{2} = 5\frac{1}{2}\ \text{Months}.$$

Situation 3. If a partner withdraws *fixed amount* in the *middle of every month*, interest is charged for 6 months on the total amount.

$$\text{Interest on Drawings} = \frac{\text{Total Drawings} \times \text{Rate of Interest}}{100} \times \frac{6}{12}$$

$$\text{Average Period} = \frac{11\frac{1}{2}\ \text{Months} + \frac{1}{2}\ \text{Month}}{2} = 6\ \text{Months}.$$

Illustration 28 (*Interest on Drawings*).

A partner draws ₹ 10,000 per month. Under the Partnership Deed, interest on drawings is to be charged @ 15% p.a. Calculate interest if the drawings are made regularly:
  (i) in the beginning of the month,
  (ii) in the middle of the month, or
  (iii) at the end of the month.

Solution:

Interest in the three situations will be:

(i) Total Drawings in the year = ₹ 1,20,000, Rate of Interest = 15% p.a.

$$\text{Interest on Drawings} = \frac{₹\,1,20,000 \times 15}{100} \times \frac{6\frac{1}{2}^{*}}{12} = ₹\,9,750.$$

$$^{*}\text{Average Period} = \frac{12\text{ Months} + 1\text{ Month}}{2} = 6\frac{1}{2}\text{ Months}.$$

(ii) Total Drawings in the year = ₹ 1,20,000, Rate of Interest = 15% p.a.

$$\text{Interest on Drawings} = \frac{₹\,1,20,000 \times 15}{100} \times \frac{6^{*}}{12} = ₹\,9,000.$$

$$^{*}\text{Average Period} = \frac{11\frac{1}{2}\text{ Months} + \frac{1}{2}\text{ Month}}{2} = 6\text{ Months}.$$

(iii) Total Drawings in the year = ₹ 1,20,000, Rate of Interest = 15% p.a.

$$\text{Interest on Drawings} = \frac{₹\,1,20,000 \times 15}{100} \times \frac{5\frac{1}{2}^{*}}{12} = ₹\,8,250.$$

$$^{*}\text{Average Period} = \frac{11\text{ Months} + 0\text{ Month}}{2} = 5\frac{1}{2}\text{ Months}.$$

Situation 4. If fixed amount is withdrawn *in the beginning of each quarter* during the year, interest is charged on the whole amount for a period of 7½ months*.

$$\text{Interest on Drawings} = \frac{\text{Total Drawings} \times \text{Rate of Interest}}{100} \times \frac{7\frac{1}{2}}{12}$$

$$^{*}\text{Average Period} = \frac{12\text{ Months} + 3\text{ Months}}{2} = \frac{15\text{ Months}}{2} = 7\frac{1}{2}\text{ Months}.$$

Situation 5. If fixed amount is withdrawn in the *middle of each quarter* during the year, interest is charged on the whole amount for a period of 6 *months**.

$$\text{Interest on Drawings} = \frac{\text{Total Drawings} \times \text{Rate of Interest}}{100} \times \frac{6}{12}$$

$$^{*}\text{Average Period} = \frac{10.5\text{ Months} + 1.5\text{ Months}}{2} = \frac{12\text{ Months}}{2} = 6\text{ Months}.$$

Situation 6. If fixed amount is withdrawn at the *end of each quarter* during the year, interest is charged on the whole amount for a period of 4½ *months**.

$$\text{Interest on Drawings} = \frac{\text{Total Drawings} \times \text{Rate of Interest}}{100} \times \frac{4\frac{1}{2}}{12}$$

$$^{*}\text{Average Period} = \frac{9\text{ Months} + 0\text{ Month}}{2} = \frac{9\text{ Months}}{2} = 4\frac{1}{2}\text{ Months}.$$

Illustration 29 (*When there is regular Drawings at Quarterly Intervals*).

Calculate interest on drawings of Siddhant @ 10% p.a. for the year ended 31st March, 2020 in each of the following alternative cases:

Case 1. If he withdrew ₹ 60,000 in the beginning of each quarter.

Case 2. If he withdrew ₹ 60,000 at the end of each quarter.

Case 3. If he withdrew ₹ 90,000 in the middle of each quarter.

Solution:

Total Drawings in Cases 1 and 2 = ₹ 60,000 × 4 = ₹ 2,40,000;

Total Drawings in Case 3 = ₹ 90,000 × 4 = ₹ 3,60,000.

	Case 1	Case 2	Case 3
Average Period	$= \dfrac{(12+3)\text{ Months}}{2} = 7.5$ Months	$= \dfrac{(9+0)\text{ Months}}{2} = 4.5$ Months	$= \dfrac{(10.5+1.5)\text{ Months}}{2} = 6$ Months
Interest on Drawings	$= ₹\,2,40,000 \times \dfrac{7.5}{12} \times \dfrac{10}{100}$ $= ₹\,15,000$	$= ₹\,2,40,000 \times \dfrac{4.5}{12} \times \dfrac{10}{100}$ $= ₹\,9,000$	$= ₹\,3,60,000 \times \dfrac{6}{12} \times \dfrac{10}{100}$ $= ₹\,18,000$

Situation 7. If fixed amount is withdrawn during 6 months:

(i) *In the beginning of each month:*

$$\text{Interest on Drawings} = \text{Total Drawings} \times \frac{\text{Rate}}{100} \times \frac{3\frac{1}{2}}{12}$$

(ii) *In the middle of each month:*

$$\text{Interest on Drawings} = \text{Total Drawings} \times \frac{\text{Rate}}{100} \times \frac{3}{12}$$

(iii) *At the end of each month:*

$$\text{Interest on Drawings} = \text{Total Drawings} \times \frac{\text{Rate}}{100} \times \frac{2\frac{1}{2}}{12}$$

Illustration 30 (*When drawings are made only for last 6 months*).

A, B and C started a firm on 1st October, 2019 sharing profits equally. A drew regularly ₹ 4,000 in the beginning of every month for the six months ended 31st March, 2020. B drew regularly ₹ 4,000 at the end of every month for the six months ended 31st March, 2020. C drew regularly ₹ 4,000 in the middle of every month for the six months ended 31st March, 2020.

Calculate interest on drawings @ 5% p.a. for the period ended 31st March, 2020.

Solution: Total Drawings of each partner = ₹ 4,000 × 6 = ₹ 24,000.

	Case 1	Case 2	Case 3
Average Period	$= \dfrac{(6+1)\text{ Months}}{2} = 3.5$ Months	$= \dfrac{(5+0)\text{ Months}}{2} = 2.5$ Months	$= \dfrac{(5.5+0.5)\text{ Months}}{2} = 3$ Months
Interest on Drawings	$= ₹\,24,000 \times \dfrac{5}{100} \times \dfrac{3.5}{12} = ₹\,350$	$= ₹\,24,000 \times \dfrac{5}{100} \times \dfrac{2.5}{12} = ₹\,250$	$= ₹\,24,000 \times \dfrac{5}{100} \times \dfrac{3}{12} = ₹\,300$

Situation 8. *If the date of withdrawal is not given, interest on total drawings for the year is calculated for six months on the average basis.*

Illustration 31.

Calculate interest on drawings of Rakesh @ 10% p.a. for the year ended 31st March, 2020 in each of the following alternative cases:

Case 1. If his drawings during the year were ₹ 30,000.

Case 2. If he withdraws ₹ 2,500 per month during the year.

Solution:

Case 1. Assuming that drawings were made evenly throughout the year, interest on drawings has been calculated for an average period of 6 months.

Interest on Drawings = ₹ 30,000 × 10/100 × 6/12 = ₹ 1,500.

Case 2. Total Drawings = ₹ 2,500 × 12 = ₹ 30,000

Interest on Drawings = ₹ 30,000 × 10/100 × 6/12 = ₹ 1,500.

> **Important Note:** *If the date of drawings is not given and Accounting period is less than 6 months, then the Interest on Total Drawings is calculated for* **half of the accounting period.**

Situation 9. When the rate of interest is given without the word '*per annum*' (p.a.), interest is charged without considering the time factor.

Illustration 32.

Calculate interest on A's drawings @ 10% if he withdrew ₹ 2,50,000 during the year.

Solution: Interest on drawings = ₹ 2,50,000 × 10/100 = ₹ 25,000.

> *Normally, interest is calculated on the basis of time amount is used.*

> **Remember:** Interest on drawings is an income for the firm and hence is credited to Profit and Loss Appropriation Account. On the other hand, interest on drawings is a loss to the partner and is debited to his Capital Account (in case of Fluctuating Capitals) or Current Account (in case of Fixed Capitals).

The Journal entries to record interest on drawings are:

If Partners' Capital Accounts are fixed.		If Partners' Capital Accounts are fluctuating.	
(i) Partners' Current A/cs	...Dr.	(i) Partners' Capital A/cs	...Dr.
To Interest on Drawings A/c		To Interest on Drawings A/c	
(Interest charged on partners' drawings)		(Interest charged on partners' drawings)	
(ii) Interest on Drawings A/c	...Dr.	(ii) Interest on Drawings A/c	...Dr.
To Profit and Loss Appropriation A/c		To Profit and Loss Appropriation A/c	
(Interest on drawings transferred to Profit and Loss Appropriation A/c)		(Interest on drawings transferred to Profit and Loss Appropriation A/c)	
Alternatively: In place of above two entries, only single entry may be passed as follows:		**Alternatively:** In place of above two entries, only single entry may be passed as follows:	
Partners' Current A/cs	...Dr.	Partners' Capital A/cs	...Dr.
To Profit and Loss Appropriation A/c		To Profit and Loss Appropriation A/c	
(Interest charged on drawings of partners)		(Interest charged on drawings of partners)	

Assignment   :- (1) X is a partner in a firm . He withdraws Rs. 5,000 per half year for his personal use. Firm charges interest @ 18% p.a. on drawings . Compute interest if drawings are made:-

(a) At the beginning of each half year. (b) at the end of each year. (c) in the middle of each year.

Assignment :- (2) Calculate the interest on drawings of Mr. Mathew @ 10% p.a. for the year ended 31st March, 2014 in each of the following alternative cases:-

Case (1) If he withdrew Rs. 2,400 in the beginning of each quarter.

(2) If he withdrew Rs. 2400 at the end of each quarter.

(3) If he withdrew Rs. 3,600 during the middle of each quarter.

Grade XII COMMERCE-   **Module- 2 /1**

SUBJECT:- BUSINESS STUDIES

TOPICS:- FUNCTIONS OF MANAGEMENT

 LINK:- https://youtu.be/6e4s_AmOl_k

        https://byjus.com/commerce/functions-of-management/

Tutorials:-

Functions of Management

Management has been described as a social process involving responsibility for economical and effective planning & regulation of operation of an enterprise in the fulfillment of given purposes. It is a dynamic process consisting of various elements and activities. These activities are different from operative functions like marketing, finance, purchase etc. Rather these activities are common to each and every manger irrespective of his level or status.

Different experts have classified functions of management. According to *George & Jerry*, "There are four fundamental functions of management i.e. planning, organizing, actuating and controlling".

According to Henry Fayol, "To manage is to forecast and plan, to organize, to command, & to control". Whereas Luther Gullick has given a keyword '**POSDCORB**' where P stands for Planning, O for Organizing, S for Staffing, D for Directing, Co for Co-ordination, R for reporting & B for Budgeting. But the most widely accepted are functions of management given by KOONTZ and O'DONNEL i.e. **Planning, Organizing, Staffing, Directing** and **Controlling**.

For theoretical purposes, it may be convenient to separate the function of management but practically these functions are overlapping in nature i.e. they are highly inseparable. Each function blends into the other & each affects the performance of others.

1. Planning

It is the basic function of management. It deals with chalking out a future course of action & deciding in advance the most appropriate course of actions for achievement of pre-determined goals. According to KOONTZ, "Planning is deciding in advance - what to do, when to do & how to do. It bridges the gap from where we are & where we want to be". A plan is a future course of actions. It is an exercise in problem solving & decision making. Planning is determination of courses of action to achieve desired goals. Thus, planning is a systematic thinking about ways & means for accomplishment of pre-determined goals. Planning is necessary to ensure proper utilization of human & non-human resources. It is all pervasive, it is an intellectual activity and it also helps in avoiding confusion, uncertainties, risks, wastages etc.

2. Organizing

It is the process of bringing together physical, financial and human resources and developing productive relationship amongst them for achievement of organizational goals. According to Henry Fayol, "To organize a business is to provide it with everything useful or its functioning i.e. raw material, tools, capital and personnel's". To organize a business involves determining & providing human and non-human resources to the organizational structure. Organizing as a process involves:

- Identification of activities.
- Classification of grouping of activities.
- Assignment of duties.
- Delegation of authority and creation of responsibility.
- Coordinating authority and responsibility relationships.

3. Staffing

It is the function of manning the organization structure and keeping it manned. Staffing has assumed greater importance in the recent years due to advancement of technology, increase in size of business, complexity of human behavior etc. The main purpose o staffing is to put right man on right job i.e. square pegs in square holes and round pegs in round holes. According to Kootz & O'Donell, "Managerial function of staffing involves manning the organization structure through proper and effective selection, appraisal & development of personnel to fill the roles designed un the structure". Staffing involves:

- Manpower Planning (estimating man power in terms of searching, choose the person and giving the right place).
- Recruitment, Selection & Placement.
- Training & Development

- Recruitment, Selection & Placement.
- Training & Development.
- Remuneration.
- Performance Appraisal.
- Promotions & Transfer.

4. Directing

It is that part of managerial function which actuates the organizational methods to work efficiently for achievement of organizational purposes. It is considered life-spark of the enterprise which sets it in motion the action of people because planning, organizing and staffing are the mere preparations for doing the work. Direction is that inert-personnel aspect of management which deals directly with influencing, guiding, supervising, motivating sub-ordinate for the achievement of organizational goals. Direction has following elements:

- Supervision
- Motivation
- Leadership
- Communication

Supervision- implies overseeing the work of subordinates by their superiors. It is the act of watching & directing work & workers.

Motivation- means inspiring, stimulating or encouraging the sub-ordinates with zeal to work. Positive, negative, monetary, non-monetary incentives may be used for this purpose.

Leadership- may be defined as a process by which manager guides and influences the work of subordinates in desired direction.

Communications- is the process of passing information, experience, opinion etc from one person to another. It is a bridge of understanding.

5. Controlling

It implies measurement of accomplishment against the standards and correction of deviation if any to ensure achievement of organizational goals. The purpose of controlling is to ensure that everything occurs in conformities with the standards. An efficient system of control helps to predict deviations before they actually occur. According to *Theo Haimann*, "Controlling is the process of checking whether or not proper progress is being made towards the objectives and goals and acting if necessary, to correct any deviation". According to Koontz & O'Donell "Controlling is the measurement & correction of performance activities of subordinates in order to make sure that the enterprise objectives and plans desired to obtain them as being accomplished". Therefore controlling has following steps:

a. Establishment of standard performance.
b. Measurement of actual performance.
c. Comparison of actual performance with the standards and finding out deviation if any.
d. Corrective action.

Assignment :- (1) Explain briefly the various functions of management.?

(2) Management is a series of continuous interrelated functions .

Comment. ?

Grade- XII   **Module-2**

<u>**SUBJECT**</u>**-MATHEMATICS**

<u>**CHAPTER NAME**</u>**-INVERSE TRIGONOMETRIC FUNCTION**

<u>**TOPIC: INVERSE TRIGONOMETRIC FUNCTION**</u>

Link-https://www.extramarks.com
      http://ncert.nic.in/ebooks.html
      https://www.youtube.com/watch?v=PxP1wc4sETs

Please find herewith the web links of the chapters along with the written assignment we wish you to cover up by the end of this break. The entire assignment will form a part of your subject enrichment assessment and needs to be done in home-work copy. This assignment will be a part of subject enrichment. In case of any clarification please feel free to get in touch with your subject teachers, once the school reopens or else mail it to principal@firayalalpublicschool.com

<u>**TUTORIALS:-**</u>

➢ <u>**INVERSE TRIGONOMETRIC FUNCTION**</u>

Trigonometric functions are many-one function but we know that inverse of function exists, if f function is bijective. If we restrict the domain of trigonometric function, these becomes bijective and inverse of trigonometric functions are defined within the restricted domain.

Let y=f(x) =sin x, then its inverse is $x = \sin^{-1} y$. First you should know about the domain and range of inverse trigonometric function and its properties:

1) $\sin^{-1} x + \cos^{-1} x = \frac{\pi}{2}, x\epsilon\{-1,1\}$

2) $\tan^{-1} x + \cot^{-1} x = \frac{\pi}{2}, x\epsilon R$

3) $cosec^{-1}x + \sec^{-1} x = \frac{\pi}{2}, |x| \geq 1$

4) $\sin^{-1} x + \sin^{-1} y = \sin^{-1}\left(x\sqrt{1 - y^2} + y\sqrt{1 - x^2}\right)$

5) $\cos^{-1} x + \cos^{-1} y = \cos^{-1}\left(xy - \sqrt{1 - x^2}\sqrt{1 - y^2}\right)$

6) $\tan^{-1} x + \tan^{-1} y = \tan^{-1}\left\{\frac{x+y}{1-xy}\right\}; xy < 1$

7) $2\tan^{-1} x = \sin^{-1}\left(\frac{2x}{1+x^2}\right); |x| \leq 1$

8) $2\sin^{-1} x = \sin^{-1}(2x\sqrt{1 - x^2})$

9) $2\cos^{-1} x = \cos^{-1}(2x^2 - 1)$

10) $3\sin^{-1} x = \sin^{-1}(3x - 4x^3)$ *and so on.*

Following substitution is used to write inverse trigonometric functions in simplest form:

Sl.no.	For	Substitution
1	$\sqrt{a^2 - x^2}$	$x = a\sin\theta$ or $x = a\cos\theta$
2	$\sqrt{a^2 + x^2}$	$x = a\tan\theta$ or $x = a\cot\theta$
3	$\sqrt{x^2 - a^2}$	$x = a\sec\theta$ or $x = a\cosec\theta$
4	$\sqrt{a + x}$ or $\sqrt{a - x}$	$x = a\cos\theta$ or $x = a\cos2\theta$

➢ **SOLVED QUESTIONS BASED ON ABOVE**

1) **Prove the following:**

   i) $3\cos^{-1} x = \cos^{-1}(4x^3 - 3x), x \in \left[\frac{1}{2}, 1\right]$

   ii) $2\tan^{-1}\frac{1}{2} + \tan^{-1}\frac{1}{7} = \tan^{-1}\frac{31}{17}$

   Solution:

   i) $Let \cos^{-1} x = \theta \;\; then\; x = \cos\theta$
   We know that,
   $\cos 3\theta = 4\cos^3\theta - 3\cos\theta$
   ⇨ $\cos3\theta = 4x^3 - 3x$
   ⇨ We have, $\frac{1}{2} \le x \le 1$
   ⇨ $\frac{1}{2} \le \cos\theta \le 1$
   ⇨ $0 \le \theta \le \frac{\pi}{3}$
   ⇨ $0 \le 3\theta \le \pi$
   ⇨ $\cos3\theta = 4x^3 - 3x$
   ⇨ $3\theta = \cos^{-1}(4x^3 - 3x)$
   ⇨ $3\cos^{-1} x = \cos^{-1}(4x^3 - 3x)$ ......$proved$

   ii) LHS: $2\tan^{-1}\left(\frac{1}{2}\right) + \tan^{-1}\left(\frac{1}{7}\right)$

   $= \tan^{-1}\left[\frac{2 \times \frac{1}{2}}{1 - \left(\frac{1}{2}\right)^2}\right] + \tan^{-1}\left(\frac{1}{7}\right)$ ($using\; 2\tan^{-1} x = \tan^{-1}\frac{2x}{1 - x^2}$)

   $= \tan^{-1}\frac{4}{3} + \tan^{-1}\frac{1}{7}$

   $= \tan^{-1}\left[\frac{\frac{4}{3} + \frac{1}{7}}{1 - \frac{4}{3} \times \frac{1}{7}}\right]$

   $= \tan^{-1}\left(\frac{31}{21} \times \frac{21}{17}\right)$

   $= \tan^{-1}\left(\frac{31}{17}\right)$

   $= RHS$ .....$proved$.

2) **Prove that:** $\tan^{-1}\left(\frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}\right) = \frac{\pi}{4} - \frac{1}{2}\cos^{-1} x$.

   Sol: $let \cos^{-1} x = \theta \; then\; x = \cos\theta$

   LHS:$\tan^{-1}\left(\frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}\right)$

$$= \tan^{-1}\left(\frac{\sqrt{1+cos\theta}-\sqrt{1-cos\theta}}{\sqrt{1+cos\theta}+\sqrt{1-cos\theta}}\right)$$

$$= \tan^{-1}\left(\frac{\sqrt{2}\cos\frac{\theta}{2}-\sqrt{2}\sin\frac{\theta}{2}}{\sqrt{2}\cos\frac{\theta}{2}+\sqrt{2}\sin\frac{\theta}{2}}\right)$$

$$= \tan^{-1}\left(\frac{\cos\frac{\theta}{2}-\sin\frac{\theta}{2}}{\cos\frac{\theta}{2}+\sin\frac{\theta}{2}}\right)$$

$$= \tan^{-1}\left(\frac{1-\tan\frac{\theta}{2}}{1+\tan\frac{\theta}{2}}\right) \quad (\text{ dividing the bracket by } \cos\frac{\theta}{2})$$

$$= \tan^{-1}\left\{\tan\left(\frac{\pi}{4}-\frac{\theta}{2}\right)\right\}$$

$$= \frac{\pi}{4}-\frac{\theta}{2}$$

$$= \frac{\pi}{4}-\frac{1}{2}\cos^{-1}x.$$

$$= \text{RHS.}$$

3) Solve the equation: $2\tan^{-1}(cosx) = \tan^{-1}(2\ cosecx)$

Sol: The given equation is $2\tan^{-1}(cosx) = \tan^{-1}(2\ cosecx)$

$$\Rightarrow \tan^{-1}\left(\frac{2cosx}{1-\cos^2 x}\right) = \tan^{-1}(2\ cosecx)$$

$$\Rightarrow \left(\frac{2\ cosx}{1-\cos^2 x}\right) = 2\ cosecx$$

$$\Rightarrow \frac{2cosx}{\sin^2 x} = \frac{2}{sinx}$$

$$\Rightarrow cotx = 1 = cot\frac{\pi}{4}$$

$$\Rightarrow x = n\pi + \frac{\pi}{4}, n\epsilon I$$

HOME ASSIGNMENT

1) $3sin^{-1}x = sin^{-1}(3x-4x^3), x\epsilon\left[-\frac{1}{2},\frac{1}{2}\right]$

2) $Write\ in\ the\ simplest\ form: tan^{-1}\left(\frac{3a^2x-x^3}{a^3-3ax^2}\right), a>0$

3) Prove that: $\cos^{-1}\frac{4}{5}+\cos^{-1}\frac{12}{13}=\cos^{-1}\frac{33}{65}$

4) $Prove\ that: \frac{9\pi}{8}-\frac{9}{4}\sin^{-1}\frac{1}{3}=\frac{9}{4}\sin^{-1}\frac{2\sqrt{2}}{3}$

5) $Solve\ the\ equation: tan^{-1}\left(\frac{1-x}{1+x}\right)=\frac{1}{2}tan^{-1}x, (x>0)$

6) Prove that: $\cot^{-1}\left(\frac{\sqrt{1+sinx}-\sqrt{1-sinx}}{\sqrt{1+sinx}+\sqrt{1-sinx}}\right)=\frac{x}{2}, x\epsilon\left(0,\frac{\pi}{4}\right)$

LEARNING OUTCOME:-

After studying this topic, students will be able to:
- ➤ Know about inverse trigonometric function.
- ➤ Memories the formula related to inverse trigonometric function.
- ➤ Use the suitable substitution to solve the problems related to it.

SUBJECT: IP

TOPIC: PANDA IN PYTHON

Link-   http://www.firayalalpublicschool.edu.in/about/homework.php

https://www.extramarks.com

Please find herewith the web links of the chapters along with the written assignment we wish you to cover up by the end of this break. The entire assignment will form a part of your subject enrichment assessment and needs to be done in home-work copy. This assignment will be a part of subject enrichment. In case of any clarification please feel free to get in touch with your subject teachers, once the school reopens or else mail it to principal@firayalalpublicschool.com

TUTORIALS:

Pandas stands for **"Python Data Analysis Library"**.

About Python Pandas

- ❖ Fast and Efficient Data Frame object with default and customized indexing.

- ❖ Support different File formats such as CSV and text files, Microsoft Excel, SQL databases etc. to be loaded into in-memory data objects.

- ❖ Intelligent Data alignment and integrated handling of missing data.

- ❖ Label-based slicing, indexing and sub setting of large data sets.

- ❖   Columns from a data structure can be deleted or inserted.

- ❖ Group by data for aggregation and transformations.

- ❖ High Performance merging and joining of data.
- ❖ Python Pandas are widely used in academic and commercial domains, including Finance, Neuroscience, Economics, Statistics, Advertising, Web Analytics, and more

DATA STRUCTURES IN PYTHON PANDAS

Series

Series is a one-dimensional array like structure with homogeneous data. For example, the following series is a collection of integers 10, 23, 56, ...

10	23	56	17	52	61

DataFrame

DataFrame is a two-dimensional array with heterogeneous data. For example,

Name	Age	Gender	Rating
Steve	32	Male	3.45
Lia	28	Female	4.6
Vin	45	Male	3.9
Katie	38	Female	2.78

PIVOTING - DATAFRAME

Dataframe -It is a 2-dimensional data structure with columns of different types. It is just similar to a spreadsheet or SQL table, or a dictionary of Series objects. It is generally the most commonly used pandas object.

PIVOT –Pivot reshapes data and uses unique values from index/ columns to form axes of the resulting dataframe. Index is column name to use to make new frame's index. Columns is column name to use to make new frame's columns. Values is column name to use for populating new frame's values.

PIVOT TABLE - Pivot table is used to summarize and aggregate data inside dataframe.

EXAMPLE OF PIVOT:

COMPANY	LG	SONY	VIDEOCON
ITEM			
AC	15000	14000	NaN
TV	12000	NaN	10000

ITEM	COMPANY	RUPEES	USD
TV	LG	12000	700
TV	VIDEOCON	10000	650
AC	LG	15000	800
AC	SONY	14000	750

PIVOT   **DATAFRAME**

PIVOTING - DATAFRAME

There are two functions available in python for pivoting dataframe.

1. **pivot()**

2. **pivot_table()**

1. pivot() - This function is used to create a new derived   table(pivot) from existing dataframe. It takes 3 arguments : index, columns, and values. As a value for each of these parameters we need to specify a column name in the original table(dataframe). Then the pivot function will create a new table(pivot), whose row and column indices are the unique values of the respective parameters. The cell values of the new table are taken from column given as the values parameter.

PIVOTING - DATAFRAME

#pivot() e.g. program

from collections import OrderedDict from pandas import DataFrame import pandas as pd

import numpy as np

table = OrderedDict((

("ITEM", ['TV', 'TV', 'AC', 'AC']),

('COMPANY',['LG', 'VIDEOCON', 'LG', 'SONY']),

('RUPEES', ['12000', '10000', '15000', '14000']),

('USD', ['700', '650', '800', '750'])

))

ITEM	COMPANY	RUPEES	USD
TV	LG	12000	700
TV	VIDEOCON	10000	650
AC	LG	15000	800
AC	SONY	14000	750

d = DataFrame(table) print("DATA OF DATAFRAME")

print(d)

p = d.pivot(index='ITEM', columns='COMPANY', values='RUPEES')

print("\n\nDATA OF PIVOT") print(p)

print (p[p.index=='TV'].LG.values)

#pivot() creates a new table/DataFrame whose columns are the unique values in <u>COMPANY</u> and whose rows are indexed with the unique values of ITEM.Last statement of above program return value of TV item LG company i.e. 12000

PIVOTING - DATAFRAME

#Common Problem in Pivoting

Pivot method takes at least 2 column names as parameters - the index and the   columns name as parameters. Now the problem may arise- What happens if we have multiple rows with the same values for these columns? What will be the value of the corresponding cell in the pivoted table using pivot method? The following diagram depicts the problem:

ITEM	COMPANY	RUPEES	USD
TV	LG	12000	700
TV	VIDEOCON	10000	650
TV	LG	15000	800
AC	SONY	14000	750

COMPANY ITEM	LG	SONY	VIDEOCON
AC	NaN	14000	NaN
TV	12000 or 15000 ?	NaN	10000

d.pivot(index='ITEM', columns='COMPANY', values='RUPEES') It throws an exception with the following message: ValueError: Index contains duplicate entries, cannot reshape

#Pivot Table

The pivot_table() method comes to solve this problem. It works like pivot, but it aggregates the values from rows with duplicate entries for the specified columns.

ITEM	COMPANY	RUPEES	USD
TV	LG	12000	700
TV	VIDEOCON	10000	650
TV	LG	15000	800
AC	SONY	14000	750

COMPANY ITEM	LG	SONY	VIDEOCON
AC	NaN	14000	NaN
TV	13500 = mean(12000,15000)	NaN	10000

d.pivot_table(index='ITEM', columns='COMPANY', values='RUPEES',aggfunc=np.mean)

In essence pivot_table is a generalization of *pivot*, which allows you to aggregate multiple values with the same destination in the pivoted table**.**

LEARNING OUTCOME

After studying this topic, students will be able to:
- Learn about the Panda Python data analysis
- Data structure in Panda
- Pivoting Datafame, Pivote Table etc

ASSIGNMENT:

1) What is Panda in Python?
2) What is data structure in Panda?
3) Explain Dataframe, Pivote, Pivote Table? With Example.