



# Spring Dale Public School

Sherpur Road, Ludhiana

## Holiday Home Assignment



*"The road to success is not easy to navigate, but with hard work, drive and passion, it is possible to achieve your dreams."*

Dear Parents  
Greetings!

Summer vacation is a much awaited time for students as it brings a break from the routine school days and a chance to enjoy some leisure time, it reduces stress and enhances stamina. It offers an opportunity for recreation and refreshment that plays a vital role in students' overall development.

### **Guidelines for the parents:**

1. Encourage your ward to read good books and enrich his/her reading skills effectively.
2. Minimise the use of mobile phone & screen time.
3. Please ensure to provide positive environment to reinforce his/her strengths productively.
4. Have a healthy discussion with your ward(s) and spend quality time with him/her.
5. Motivate your child to be regular and punctual at every step of life. It will definitely reward him/her with success.

### **Instructions for the students:**

- Do complete your assignments in your own handwriting.
- Project files must be well maintained as they will be assessed and evaluated for the Final Assessment.
- Revise & practise all the topics already covered in the class.
- Focus on self-study and utilise this time period optimally.
- Students must use **internet** under the guidance of their parents.

*Have a rejuvenating Summer Break!*



## CLASS XII



### I. Write articles on the following topics:-

1. Woman Empowerment- a futuristic approach
2. Climate Change and Human Responsibility
3. Mental Health Awareness among students
4. Child Labour in India
5. Rise in population is the root cause of poverty in India
6. Artificial Intelligence- a Bane

### II. Project work

- Make a project of 15 pages atleast on any one topic of the following ( as assigned rollnos. wise by the Subject- Incharge).
- The project must include the introduction, synopsis, theme/ central idea, incidental support, report on the current scenario, messages, conclusion and bibliography.
- Presentation must be colourful and neat. Students must use thick hand made sheets, colourful pens to write and paste pictures to make it appealing and attractive.

### Topics for projects:-

1. The Last Lesson
2. The Lost Spring
3. Deep Water
4. Indigo
5. A Thing of Beauty
6. My Mother at Sixty Six



### कार्य विवरण

- किसी उच्च कंपनी के लिपिक के पद के लिए अपना स्ववृत्त तैयार कीजिए।
- अनुच्छेद: महिलाओं को आरक्षण नहीं अधिकार चाहिए।
- परियोजना कार्य: हमारे समाज में बढ़ती आधुनिकता और बुजुर्गों की आधुनिकता के प्रति होने वाली प्रतिक्रिया का वर्णन करें।
- हिंदी का एक पोर्टफोलियो तैयार कीजिए और उसमें यह कार्य कीजिए।
- नोट गृह कार्य A4 साइज शीट में लिखकर एक फाइल तैयार कीजिए और उसके प्रथम पृष्ठ पर अपना नाम, विषय, कक्षा, शिक्षिका का नाम आदि जानकारी अवश्य लिखिए।
- करवाए गए पाठ्यक्रम को कंठस्थ भी कीजिए।



- 1) ਪੰਜਾਬ ਦੇ ਮੇਲੇ ਅਤੇ ਤਿਉਹਾਰਾਂ ਉੱਤੇ ਤਸਵੀਰਾਂ ਸਹਿਤ ਸੁੰਦਰ ਪ੍ਰੋਜੈਕਟ ਫਾਇਲ ਤਿਆਰ ਕਰੋ।
- 2) ਸੋਸ਼ਲ ਮੀਡੀਆ ਦੇ ਚੰਗੇ ਅਤੇ ਮਾਤ੍ਰ ਪ੍ਰਭਾਵਾਂ ਨੂੰ ਬਿਆਨ ਕਰਦੇ ਹੋਏ ਤਸਵੀਰਾਂ ਸਹਿਤ ਇੱਕ ਸੁੰਦਰ ਪ੍ਰੋਜੈਕਟ ਫਾਇਲ ਤਿਆਰ ਕਰੋ।
- 3) ਬਜ਼ੁਰਗਾਂ ਦਾ ਘੱਟ ਰਿਹਾ ਸਤਿਕਾਰ ( ਕਾਰਨ ਅਤੇ ਸੁਝਾਅ) ਵਿਸ਼ੇ 'ਤੇ ਇੱਕ ਸੁੰਦਰ ਪ੍ਰੋਜੈਕਟ ਫਾਇਲ ਤਸਵੀਰਾਂ ਸਹਿਤ ਤਿਆਰ ਕਰੋ
- 3) ਕਰਵਾਏ ਗਏ ਸਿਲੇਬਸ ਦੀ ਦੁਹਰਾਈ ਕਰੋ।





# Political Science

MAKE PROJECT ON THE FOLLOWING TOPICS.EACH STUDENT WILL MAKE ONE PROJECT ON THAT TOPIC WHICH IS ASSIGNED BY TEACHER

1. The end of bipolarity
2. Alternative centres of power
3. Contemporary South Asia
4. Globalization
5. India after independence
6. India 's foreign policy
7. Democratic upsurge
8. Regional aspirations
9. Recent development in indian politics

FINAL PRESENTATION/LAYOUT OF THE PROJECT

Section 1: Political Science Project (Title of the Project) Name: School: Year: Roll no.: Section 2: Certificate of authenticity (To be pasted) Teacher's Signature

Section 3: Index

Section 4: Acknowledgement (Acknowledging the institution, the place visited and the person who has helped.)

Section 5: Preface: Problem Statement/Objective of the project

Section 6: Introduction: (Objective/learning outcomes of the project. Introduce the selected topic by giving some historical background)

Section 7: Summary of the topic Activities done during the project Section 8: Observations and Analysis

Section 9: Conclusion Summarized suggestions of findings/Future scope of study

Section 10: Appendix Person consulted, Bibliography, Books, Websites, Films/ Television referred.

Section 11: Values and Life skills learned through the project Section 12: Draft Thank you.

**General Instructions:**

1. Project should be individual only
2. It should be a handwritten project on a A4 size sheet.
3. Project should be summed up in 20 -25 pages.
4. It should be well researched based on facts and figures and pictorial.
5. The project must have a Table of contents, Title/ Cover page, Acknowledgement, Bibliography, Analysis with headings and sub-headings.
6. It must include relevant news clippings, facts and figures, pictures.
7. You can plan a survey or an inter



1. Solve question paper of May Unit Test 2025 and the assignments given below in your fair notebook.
  - a) Write Interest rates of all types of deposits in saving bank accounts, Atleast 5 Nationalized Banks and 5 Private Banks.
  - b) Write the rates of Gold and Silver for 10 days.
  - c) Write atleast 5 good and 5 bad impacts of COVID-19 in Indian Economy.
  - d) Collect Economics news from newspaper atleast 20 and paste them in your notebook.
2. Prepare 2 charts on A4 size sheets based on Macroeconomics and Indian economic development (one each)
3. Revise the syllabus covered in the class.

4. Revise HOTS, Value based questions, very short questions and reasons based questions and Competency based questions.
5. Do revision of NCERT questions also.



- A. Revise the syllabus which was covered in class.
- B. Prepare a chart on the following topic on A3 sheets:-
  - i) Functional Structure ( 1-13)
  - ii) Types of Plan (14-27)

**Take printout of the assignment and paste it in your business studies practical notebook and solve it neatly in your own handwriting. It will be evaluated for Midterm Examination.**

1. Over the years, e-business in our country has witnessed tremendous growth due to several reasons. There is significant improvement in the Information Technology infrastructure over the last decade as the Government has taken important steps in high-speed Internet connectivity. As a result, the broadband networks have not only become better but also more affordable. Additionally, Government is trying to make rural India connected through broadband a great possibility for e- business to expand the retail market by reaching out to the most remote rural customer. Another catalyst strengthening the e-business segment is the country's favourable demography. It has more than 50% of its population below the age of 25 and more than 65% below the age of 35. It is expected that, in the year 2020, the average age of an Indian will be 29 years, compared to 37 for China and 48 for Japan, this promises for phenomenal increase in e-business. Moreover, the penetration of the Smartphone in a large section of the population has aptly addressed the problem of compute illiteracy. Not with standing the fact that consumers also prefer e-business due to multiple factors like convenience, time etc.  
Identify and explain the various dimensions of business environment being referred to in the above case.
2. Eco-friendly products are gaining power as the consumers' awareness about environmental issues has increased over the years and they are conscious about choosing products that do not have adverse effects on the environment. They are now more conscious about the carbon emission and climate change effects, and want such a scenario, it has become a challenge for the companies as they have to not only meet the needs of the consumers but also ensure that their products are safe and environment friendly. As a result, there is growing need for better and advanced technologies to works as a catalyst in this regard. Identify the relevant feature of business environment being discussed above.
3. "Grover Ltd." has a plan of increasing profits by 25%. for this, it has incurred a lot of time and money. But the competition started increasing, so it could not change its plan to beat its competitors because huge amount of money had already been spent to the pre decided plan. It cause losses to the company. Identify and explain any two limitations of planning highlighted in the above case by quoting the lines.
4. "ABC Ltd." Gave its sales Executives the directive that they could sell the goods on credit. Also it told them very clearly to inform the customers that if up to one month they did not make the payment, after the completion of this period, they would have to pay interest for the whole period at the rate of 12% per annum. Identify and explain the types of plans mentioned above by quoting the lines.
5. Ultra Paint Co. which is manufacturing paints has been enjoying a prominent market position as it manufactured best quality paints, made timely payment of taxes to government. It assembled various inputs like finance, machines, raw materials, etc. from its environment. But since last year it has been dumping its untreated poisonous waste on the river bank which has created many health problems for the people. As a result, the court passed an order to seal the manufacturing unit of the company.
  - i. State the importance of business environment highlighted quoting the line from the above case.
  - ii. Explain other points of importance.
6. One of the questions that needs to be answered in the organising function is "At what level are decisions made?" Decision making authority in an organisation can be pushed down to the lower levels or it may lie with the top



management. However it is not an 'either or' concept. When an organisation grows in size or complexity, there is tendency towards sharing decision making authority with the lower levels. This is because in large organisations, employees who are closely involved with certain operations tend to have more knowledge about them than the top management. An important concept of organising function is discussed above. Identify the concept and state any three points of its importance.

7. Disco Ltd. manufactures fashionable and designer clothes. Recently it finds that the demand for its products has been declining. After market research it was discovered that fashion and tastes of the consumers is changing at a fast pace. Customers' demand is increasing. New competitors have entered the market with new designs. It is very difficult for the company to predict future happenings. Also, it is difficult to know the extent of the relative impact of the social, economic, political, technological or legal factors on decrease in demand of its products in the market. A meeting was held in which managers from different functional levels heading Production, Marketing, Finance, etc., for example, Chief Operating Officer, Chief Finance Officer, Vice President (Marketing) were present to discuss how to deal with the situation. After a long discussion, it was decided that they would study and analyze the market first to identify customer tastes and fashion and then manufacture garments accordingly. It was also decided to increase expenditure on advertising, after-sales services, etc.
  - 1) Identify any two features of business environment by quoting the lines from the above case.
  - 2) At which level of management the meeting of managers of Disco Ltd. was held?
  - 3) State the importance of understanding of environment by business managers in the light of the above para.
8. After completing his education, Arun joins his father in their family business of manufacturing cookware. As a businessman, his father is rigid in his approach and has fixed ideas about various issues. He tends to maintain a distance from the factory workers. However, Arun is more receptive to the needs of the workers and doesn't seem to believe in any class- differences. He believes that the prosperity of their business greatly depends upon the prosperity of their workers and vice versa. At the same time, he has a good understanding of the business environment. Therefore, he introduces a new range of green pans that provide a healthy cooking surface, as they are manufactured with all ceramic or silicon coating and are considered safer than the traditional petroleum based nonstick surfaces which may contain toxic substances. Although, the new cookware range is highly prices, he expects a ready market for it as both the purchasing power of people and their preference for better quality products have increased over the years. In context of the above case:
  1. Identify the nature of management which is being reflected in the different styles of management in practice adopted by Arun and his father.
  2. Name and explain the related principle of scientific management.
  3. State the related dimensions of business environment.
9. India's retail sector has been undergoing structural changes for the last two decades. On one hand, the 'mall culture' has gradually become a way of life, especially in the metros and mini-metros. On the other hand, there is accelerated growth in e-business as customers also prefer to buy products and services via the Internet, telephone and television.. However, operating in either of the segments is marked by the presence of strong competitors. Identify the components of specific forces and general forces being discussed in the above paragraph.
10. Anoop started 'Cat's Eye', a company providing cyber security solutions to businesses. Its objective is to prevent, detect, respond to cyber-attacks and protect critical data. He was a hardworking software engineer and an expert in cyber security. His reputation grew by leaps and bounds as he was not only a person of integrity but also did his work with utmost honesty and sincerity. The business started growing day by day. He got delighted when he was given a big project by the Ministry of Science and Technology. While working on the project he found that the volume of work made it impractical for him to handle all the work by himself. Therefore he decided to expand the team. The company maintained a close liaison with an engineering college in the State. During a campus placement, Arya and Arun were appointed to work for the new project. He found the new employees capable, enthusiastic and trustworthy. Anoop was thus, able to focus on the objectives and with the help of Arya and Arun, the project was completed on time. Not only this, Anoop was also able to extend his area of operations. On the other hand, Arya and Arun also got opportunities to develop and exercise initiative.
  - (A)Identify and explain briefly the concept used by Anoop in the above case which helped him in focussing on the objectives.
  - (B)Also, explain any four points of importance of the concept identified in part (A).
11. After completing her studies in product design, Sarah wishes to start her own business to design products to cater to the mobility and communication requirements of persons with special needs. She told her friend that she wanted to focus on supplying high quality and affordable products on "no profit – no loss basis". The Unique Selling

Proposition (U.S.P) of the products will be sensitivity to challenges and needs of the differently abled. She has to follow a series of steps to attain her predetermined objectives. In the above lines, Sarah has discussed about one of the functions of management. Identify the function and state its steps in chronological order other than the one discussed in the above para.

12. Nutan Tiffin Box service was started in Mumbai by Mumbai dabbawalas. The Dabbawalas who are the soul of entire Mumbai aim to provide prompt and efficient services by providing tasty homemade tiffin to all office goers at right time and place. The service is uninterrupted even on the days of bad weather, political unrest and social disturbances. Recently they have started online booking system through their website' mydabbawals.com. Owing to their tremendous popularity amongst the happy and satisfied customers and members, the dabbawalas were invited as guest lecturers by top business schools. The Dabbawalas operate in a group of 25-30 people along with a group pleader. Each group teams up with other groups in order to deliver the tiffin on time not transferred on frequent basis as they have to remember the addresses of their customers. They follow certain rules while doing trade-No alcohol during working hours; No leave without permission; Wearing of white cap & carrying ID cards during business hours. They are Recently on the suggestion of a few self-motivated fellow men, the dabbawalas thought out and executed a plan of providing food left in tiffins by customers to slum children. They have instructed their customers to place red sticker if food is left in the tiffin, to be fed to poor children later.  
State the principles of management given by Fayol & the characteristics of management mentioned in the above case.
13. Hritik is desirous of setting up a small factory to manufacture different kinds of eco-friendly packaging materials. He proposes to adopt to logical approach to his business rather than hit and trial method as he knows that this can result in tremendous saving of human energy as well as wastage of time and materials. He plans to adopt paternalistic style of management in practice in order to avoid any kind of class-conflict that may emerge between him and the workers.  
Moreover, he plans to seek the opinion of his workers before taking any important decisions and also offers incentives to them for providing valuable suggestions for the business.  
In context of the above case:  
Identify and explain the various principle of scientific management that Hritik plans to apply in his business.
14. Gaurika has been appointed as the chief organizer of a weeklong Cultural event. Being a staunch follower of scientific management, she decides to execute her work by putting into practice the various techniques of scientific management. On the basis of several observations, she is able to determine that the standard time taken by the security officer at the gat to check the credentials of each visitor is 30 seconds. So she decides to employ two persons on this job for every function along with the other necessary support staff. She considers the fact that every day, the functions will take place in three shifts of four hours each, therefore it is important to give breaks to the support staff even in a single shift to take her/his lunch etc. moreover, on introspection, she determines that the best way to distribute refreshment boxes to the visitors will be to hand it over to them at the exit gate as it would help to save time and eliminate any kind of confusion.  
In the context of the above case:  
A. Identify and explain the various techniques of work study which have been put into practice by Gaurika.  
B. Explain other work study techniques.
15. Two years ago Madhu completed her degree in food technology. She worked for sometime in a company manufacturing chutneys, pickles and murabbas. She was not happy in the company and decided to have her own organic food processing unit for the same. She set the objectives and the targets and formulated action plan to achieve the same. One of her objective was to earn 10% profit on the amount invested in the first year. It was decided that raw materials like fruits, vegetables, spices, etc. will be purchased on three months' credit from farmers cultivating organic crops only. She also decided to follow the steps required for marketing of the products through her own outlets. She appointed Mohan as a production Manager who decides the exact manner in which the production activities are to be carried out. Mohan also prepared a statement showing the number of workers that will be required in the factory throughout the year. Madhu informed Mohan about her sales target for different products, area wise for the forthcoming quarter. While working on the production table a penalty of ₹100 per day for not wearing the caps, gloves and apron was announced. Quoting lines from the above para identify and explain the different types of plans discussed.



# ACCOUNTANCY

1. Revise and practice the syllabus covered in the class
2. Revise Question Paper of May Unit Test in practical notebook.
3. Revise the following given in book of Ch 1 – 4 (Partnership)
  - Hots
  - Very short Questions
  - Short Questions
  - Practical problems
4. Prepare charts on A3 size sheet:
  - Methods of Calculating Goodwill (Students with Even Roll No.)
  - Adjustments for Admission of Partner (Students with Odd Roll No.)
5. Solve the given assignment on your fair notebooks.

1. (P & L Appropriation A/c/Partners' Current A/c) A, B and C are in partnership with respective fixed capital of 40,000; 30,000 and 20,000. B and C are entitled to annual salaries of 2,000 and 1,500 respectively payable before division of profits. Interest on capital is allowed at 5 per cent per annum, but interest is not charged on drawings. Of the first 12,000 divisible as profits in any year, A is entitled to 50 per cent, B to 30 per cent and C to 20 per cent. Annual profits in excess of 12,000 are divisible equally. The profits for the year ended 31st March, 2018 was 20,100 after debiting partners' salaries but before charging interest on capital. The partners' drawings for the year were: A 8,000, B 7,500 and C 4,000. The balance on the partners' current account on 1st April, 2017 were A 3,000 credit; B 500 credit; C 1,000 debit.

Prepare profit and loss appropriation account and the partners' current accounts.

**[Ans. Current account balances A ₹ 4,200 (Cr.) B ₹ 1,300 (Cr.) and C 1,100 (Cr.)]**

2. (P & L Appropriation A/c/Partners' Fixed Capital A/c) Thread, Needle and Button are in partnership and during the year ended 31-3-2017, they earned a profit of 83,000. Thread and Needle are entitled to 10% p.a. interest on capital of 60,000 and 1,00,000 respectively. Button who has no capital in the firm is entitled to a salary of 12,000 p.a. Button is also entitled to a commission of 10% on the profits after charging interest, salary and commission. It is further agreed that the balance of profits should be appropriated as to 20% for charity fund and balance is shared equally by Thread and Needle.

Prepare Profit & Loss Appropriation Account and partners capital and current account for the year ended 31st March, 2017, if the drawings of the partners during the year were Thread 8,000 ; Needle 6,000 and Button 9,000.

**[Ans. Share of Profit Thread and Needle 20,000 each. Current Account Thread 18,000; Needle 24,000; Button 8,000]**

3. (P & L Appropriation A/c/Partner's Capital A/c) A and B are partners sharing profits in the ratio of 3:2 with capitals of 50,000 and 30,000 respectively. Interest on capital is agreed @ 6% p.a. B is 2500. During 2017, the profits of the year prior to calculation of interest on capital but after charging B's salary amounted to 12,500. A provision of 5% of the profits (before charging interest on capital and partner's salary) is to be made in respect of manager's commission.

Prepare an account showing the allocation of profits and partners' capital account.

**[Ans. Profit 6,950, Capital A/c balance: A-57,170 (Cr.), B37,080 (Cr.)]**

4. (P & L Appropriation/Partners' Capital A/c) X, Y and Z were partners in a firm. Their capital on 1.4.2016 were : X: 2,00,000 Y: 2, 50,000 Z : ₹ 3,00,000

The partnership deed provided for the following:

- a. They will share profits in the ratio of 2:3:3.
- b. X will be allowed a salary of 12,000 p.a.
- c. Interest on capital will be allowed @ 12% p.a.

During the year, X withdrew 28,000, Y ₹ 30,000 and Z 18,000. For the year ended 31.3.2017, the firm earned a profit of ₹5,00,000.

Prepare 'Profit and Loss Appropriation Account' and partners capital accounts.

**[Ans. Profit 3,98,000, Capital Account Balance X-3,07,500, Y3,99,250, Z 4,67,250].**

5. (Change in Profit Sharing Ratio) Smart, Beautiful and Cute are partners in a firm from the last several years. They share profits and losses in 2 : 3:2 ratio. They distributed the profits of the year amounting to 77,000 in the said ratio. After this they decided to alter the profit ratio. As per new arrangement Smart, Beautiful and Cute would share profits and losses in 2:2:1 ratio. Show the adjustment entry in the books.

**[Ans. Debit Beautiful 2,200 and Cute 6,600 Credit Smart 8,800]**

6. (Change in Profit Sharing Ratio and Omission of Interest) A and B had been sharing profits and losses equally. After dividing the profits for the year 2016-17 60,000, it was agreed that they would share profits and losses from 1st April, 2016-17 in the ratio of 3:2. At that time it was also found that while preparing accounts for 2016-17 interest on capitals @ 5% p.a. was ignored. The fixed capitals of A and B were 1,00,000 and 80,000 respectively. Pass a single adjustment entry to adjust the accounts of the partners.

**[Ans. B's Capital A/c to be debited with 5,600 ; A's Capital A/c to be credited with 5,600]**

7. (Omission of Salary, Interest on Capital and Change in Profit Ratio) A, B and C were partners in a firm. On 1-4-2016 their capitals stood at 50,000, 25,000 and 25,000 respectively. As per the provisions of the partnership deed:

C was entitled for a salary of 1,500 p.m.

Partners were entitled to interest on capital at 5% p.a. Profits were to be shared in the ratio of capitals.

The net profit for the year 2016-17 of 45,000 was divided equally without providing for the above terms. Pass an adjustment entry to rectify the above error.

**[Ans. Debit A 1,500; B ₹8,250; Credit C 9,750]**

8. (Adjustment in Profits of Two Years) X, Y and Z have omitted interest on capital for two years. Their fixed capital in two years were X 80,000, Y 70,000 and Z 30,000. Rate of Interest being 10% p.a. Their profit-sharing ratio were in first year 4:3:2 and in second year 3:2:1. Give necessary adjusting entry.

**[Ans. Debit X 1,000, 21,000, Credit Y 2,000]**

9. (Two partners given guarantee) A, B and C are partners in a firm. Their capital accounts stood at 50,000; 40,000 and 30,000 respectively on 1st April, 2016. They share profits and losses in the ratio of 5:3:2. C's share of profit (excluding interest on capital) is guaranteed by the firm to be not less than 16,000 p.a., B's share of profit (including interest on capital and salary) is guaranteed by A at a minimum of 26,000 p.a.

The profits for the year ended 31st March 2017 amounted to 80,000 before interest on capital @ 5% p.a. and salary to B @ 1,000 p.m.; which under the partnership deed are allowable.

Prepare profit & loss appropriation account for the year ended 31st March, 2017. –

**[Ans. Profit A-28,750; B — 17,250 and C-16,000. B's share including interest on capital and salary is higher than the guaranteed amount].**

10. (Two Partners given guarantee) Anand, Bhaskar and Dinakar are partners in a firm. On 1st April 2011 the balance in their capital accounts stood at 10,00,000, 8,00,000 and 6,00,000 respectively. They shared profits in the proportion of 5: 4:3 respectively. Partners are entitled to interest on capital @ 10% per annum and salary to Bhaskar @ 4,000 per month and commission of 16,000 per quarter to Dinakar as per the provisions of the partnership deed.

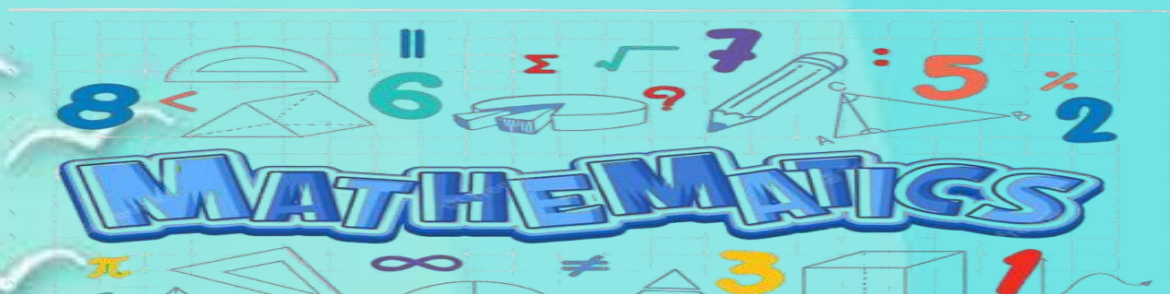
Anand's share of profit (excluding interest on capital) is guaranteed at not less than 1,90,000

p.a. Bhaskar's share of profit (including interest on capital but excluding salary) is guaranteed at not less than 2,45,000 p.a. Any deficiency arising on that account shall be met by Dinakar. The profits of the firm for the year ended 31st March 2012 amounted to 8,32,000.

Prepare profit and Loss Appropriation A/c for the year ended 31.3.2012.

**(Ans. Profit Anand - 200,000; Bhaskar -1,65,000; Dinakar ₹ 1,15,000)**





**A. Activities(Do these activities in Maths Lab Manual)**

1. To verify that the relation  $R$  in the set  $L$  of all lines in a plane, defined by  $R = \{(l, m) : l \wedge m\}$  is symmetric but neither reflexive nor transitive.
2. To verify that the relation  $R$  in the set  $L$  of all lines in a plane, defined by  $R = \{(l, m) : l \parallel m\}$  is an equivalence relation.
3. To demonstrate a function which is not one-one but is onto.
4. To draw the graph of  $\sin^{-1} x$ , using the graph of  $\sin x$  and demonstrate the concept of mirror reflection (about the line  $y = x$ ).
5. To explore the principal value of the function  $\sin^{-1} x$  using a unit circle.
6. To find analytically the limit of a function  $f(x)$  at  $x = c$  and also to check the continuity of the function at that point.
7. To understand the concepts of decreasing and increasing functions.
8. To construct an open box of maximum volume from a given rectangular sheet by cutting equal squares from each corner.

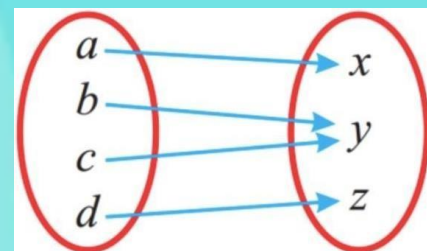
**B. Project Work: (Do these Questions on A4 Sheet) CASE STUDY**

1. Sherlin and Danju are playing Ludo at home during Covid-19. While rolling the dice Sherlin's sister Raji observed and noted the possible outcomes of the throw every time belongs to set  $\{1,2,3,4,5,6\}$ . Let  $A$  be the set of players while  $B$  be the set of all possible outcomes.  $A = \{S, D\}$ ,  $B = \{1,2,3,4,5,6\}$ .  
On the basis of above information, answer the following questions.
  - i. Show that the relation  $R$  on  $B$ , defined by  $R = \{x, y : y \text{ is divisible by } x\}$  is reflexive, transitive but not symmetric.
  - ii. Let  $R$  be a relation on  $B$  defined by  $R = \{(1,1), (1,2), (2,2), (3,3), (4,4), (5,5), (6,6)\}$ . Then, show that  $R$  is reflexive and transitive but not symmetric.
  - iii. Raji wants to know the number of relations possible from  $A$  to  $B$ . How many numbers of relations are possible?
2. Students of Grade 9, planned to plant saplings along straight lines, parallel to each other to one side of the playground ensuring that they had enough play area. Let us assume that they planted one of the rows of the saplings along the line  $y = x - 4$ . Let  $L$  be the set of all lines which are parallel on the ground and  $R$  be a relation on  $L$ .
  - I. Let relation  $R$  be defined by  $R = \{(L1, L2) : L1 \parallel L2 \text{ where } L1, L2 \in L\}$ . What is the type of relation  $R$ ?
  - II. Check whether the function  $f : R \rightarrow R$  defined by  $f(x) = x - 4$  is bijective or not.
  - III. Let  $f : R \rightarrow R$  be defined by  $f(x) = x + 4$ . Find the range of  $f(x)$ .
3.  $R^+$  is a set of all real numbers containing all natural numbers, whole numbers, positive integers as well as positive rational and positive irrational numbers.  
Consider the function  $f : R^+ \rightarrow [-9, \infty)$  given by  $f(x) = 5x^2 + 6x - 9$ .
  - (i) Check whether the function is one-one.
  - (ii) Check whether the function is onto.
4. A diet is to contain 30 units of vitamin A, 40 units of vitamin B, and 20 units of vitamin C. One unit of food F1 Contains 3 units of vitamin A, 2 units of vitamin B and 1 unit of vitamin C. One unit of food F2 Contains 1 unit of vitamin A, 2 units of vitamin B and 1 unit of vitamin C. One unit of food F3 Contains 5 units of vitamin A, 3 units of vitamin B and 2 units of vitamin C. Based on the above information, answer the following question:
  - (i) If the diet contains  $x$  units of food F1,  $Y$  Units of food F2, And  $Z$  units of food F3. What is the matrix equation representing the above situation?
  - (ii) What are the values of  $x$ ,  $y$  and  $z$  in the given situation?
5. Let  $N$  be the set of all-natural numbers and let  $R$  be a relation on  $N \times N$ , defined by

$$(a, b)R(c, d) \Leftrightarrow ad = bc \quad \forall (a, b), (c, d) \in N \times N.$$

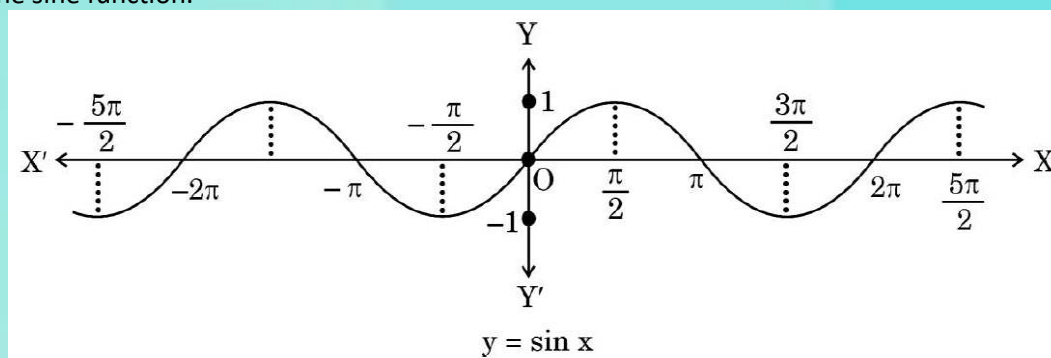
Read the above information and answer the followings:

- (i) Is R a reflexive relation? If yes, show your steps.
- (ii) Is R a symmetric relation? If yes, show your steps.
- (iii) Is R a transitive relation? If yes, show your steps.



6. If a function  $f : X \rightarrow Y$  defined as  $f(x) = y$  is one-one and onto, then we can define a unique function  $g : Y \rightarrow X$  such that  $g(y) = x$ , where  $x \in X$  and  $y = f(x)$ ,  $y \in Y$ . Function g is called the inverse of function f.

The domain of sine function is R and function sine  $: R \rightarrow R$  is neither one-one nor onto. The following graph shows the sine function.



Let sine function be defined from set A to  $[-1, 1]$  such that inverse of sine function exists,

i.e.  $\sin^{-1} x$  is defined from  $[-1, 1]$  to A. On the basis of the above information, answer the following questions:

- (i) If A is the interval other than principal value branch, give an example of one such interval.
- (ii) If  $\sin^{-1} x$  is defined from  $[-1, 1]$  to its principal value branch, find the value of  $\sin^{-1}(-\frac{1}{2}) - \sin^{-1}(1)$
- (iii) Draw the graph of  $\cos^{-1} x$  from  $[-1, 1]$  to its principal value. Find the domain and range of  $f(x) = 5 \cos^{-1}(1 - x)$ .
- (iv) Find the domain and range of  $f(x) = 5 \cos^{-1}(1 - x)$ .



#### Project Topics:

1. Genetically Modified Organisms (GMOs).
2. Biotechnology in Medicine (e.g., vaccines, gene therapy)
3. Biopesticides and Biofertilizers.
4. Human Genome Project.
5. DNA Fingerprinting and its Applications.
6. Biotechnology in Agriculture
7. Drug addiction
8. Mutation
9. Sickle cell Anemia and its prevention

#### Roll no.

- 1,16
- 2,17
- 3,18
- 4,19
- 5,20
- 6,21
- 7,22
- 8,23
- 9,24





### Investigatory project General Guidelines

1. Project should be neat and well presented and must be handwritten on interleaf sheets.
2. Relevant pictures are to be pasted.
3. Avoid use of whitener, while writing.
4. All are supposed to adhere to topic allotted which are mentioned as class Roll number.
5. A project sample will be shared which will help you to make the project.
6. The project should include front page with school logo and project name, certificate, acknowledgement, index, bibliography.

### Project Topics :

1. Effect of potassium bisulphite as a food preservative. ( 1,13,25)
2. Comparative study of rate of fermentation in following potato juice ,wheat flour, carrot juice gram flour. (2, 14,26)
3. Common food adulterants in fat ,butter, oil turmeric powder ,pepper ,chili powder ,sugar.(3, 15,27)
4. Project on carbohydrates. (4, 16)
5. Study of casein in different samples of milk (5, 17)
6. Removal of alcohol from body by esterification. (6, 18)
7. To find acidity in different samples of tea. (7, 19)
8. Extraction of essential oils present and ajwain(carum), Illaichi(cardamom), sauf(fennel). (8, 20)
9. Sterilization of water using bleaching powder.(9 , 21)
10. Comparative study and qualitative analysis of different brands of cold drink available in market. (10, 22)
11. Digestion of starch by salivary amylase and effect of temperature and pH on it.(11,23)
12. Invisible Ink: modelling a molecular switch
13. To study the presence of insecticide and pesticides in various fruits.(12,24)



1. Write about the lifestyle related diseases and yoga as preventive measure.
2. Write in detail about the rule and regulations of any game of your choice in notebook.
3. Pictorial Presentation of SAI khelo India fitness test.



### Instructions:

- All work should be completed neatly in Assignment Notebook.
- Poster or article should be made on an A4 size sheet.
- Submission Date: First day after summer break.
- Marks will be awarded for creativity, content, and timely submission.

### Chapter 1 – Variations in Psychological Attributes (Case-Based Questions)

1. Aman and Riya perform differently in problem-solving tasks. Riya uses logic, while Aman relies on past experiences.
  - a. Identify the types of intelligence shown.
  - b. Mention any two theories supporting these differences.
2. Aarav can solve mathematical puzzles but struggles with expressing emotions.
  - a. Which intelligences are being compared here?
  - b. Who proposed this theory?
3. Meena can create beautiful melodies and adapt to emotional situations easily.



- a. Identify the multiple intelligences she shows.
- b. Explain the role of emotional intelligence in life success.
4. Two children from different cultures solve the same problem using very different strategies.
  - a. How is culture affecting their intelligence?
  - b. Mention one psychologist who supports this view.
5. A student's IQ is measured using a test developed in the West, but he belongs to a tribal community in India.
  - a. What kind of bias might affect the result?
  - b. Define culture-fair test.
6. Ravi performs extremely well in drawing tasks and has strong visual-spatial ability.
  - a. Which type of intelligence is this?
  - b. Give one career option suitable for Ravi.
7. Two students with the same IQ perform differently in school exams.
  - a. What factors could explain this difference?
  - b. What is the role of emotional intelligence here?
8. An employer uses aptitude tests to select candidates for different job roles.
  - a. Define aptitude.
  - b. Differentiate between general and specific aptitude.
9. Sameer has excellent leadership skills and understands people well.
  - a. Which intelligence is reflected here?
  - b. Name any two careers suited for him.
10. Nisha finds it difficult to adjust with peers and often misunderstands others' emotions.
  - a. What may be lacking in her psychological profile?
  - b. How can emotional intelligence training help?
11. A school identifies gifted students based on IQ tests above 130.
  - a. Define giftedness.
  - b. Name two characteristics of intellectually gifted children.
12. Reema is below average in intellectual functioning and needs support in daily tasks.
  - a. What type of intellectual category does she fall under?
  - b. How can educational planning help such children?
13. A student is very interested in science but performs poorly in science exams.
  - a. Distinguish between interest and aptitude.
  - b. What kind of test would assess his true potential?
14. Two students solve the same design-based puzzle. One uses a trial-and-error method, the other solves it analytically.
  - a. Identify the two models or approaches of intelligence they are using.
  - b. Explain how intelligence can be understood differently.
15. Rajan comes up with innovative solutions and asks unusual questions.
  - a. Which attribute is he showing?
  - b. What is the relation between creativity and intelligence?

### **1. Chapter 2 – Self and Personality (Case-Based Questions)**

1. Aman frequently evaluates his abilities in sports, academics, and social settings.
  - a. What is the term for his evaluation of himself?
  - b. How is self-concept different from self-esteem?
2. Riya finds herself to be socially active but often feels emotionally overwhelmed.
  - a. Identify the traits being displayed here.
  - b. Which model can help understand her personality dimensions?
3. Rahul describes himself as quiet and reserved in most situations.
  - a. Which dimension of personality does he score high in?
  - b. Which psychologist proposed this classification?
4. Neha consistently displays helpfulness, friendliness, and cooperative behavior.
  - a. Which trait from the Big Five model best describes her?
  - b. How can this trait affect social relationships?
5. Ankit finds it difficult to resist junk food even after deciding to diet.

- a. What psychological concept explains this?
- b. Suggest one technique that can improve his self-regulation.
6. Meena believes she can do well in exams with hard work, while her friend says it depends on luck.
  - a. Identify the self-belief displayed by Meena.
  - b. Who introduced this concept?
7. Raj, a student, feels competent in maths but not in social studies.
  - a. What concept is shown in his behavior?
  - b. How can this be assessed?
8. A boy has a consistent pattern of behavior, responding patiently and sincerely in all situations.
  - a. What does this reflect about his personality?
  - b. Which approach supports this kind of analysis?
9. Sita often behaves like her parents and adopts their values.
  - a. Which Freudian structure of personality is evident here?
  - b. What is the process called?
10. A person gets angry at colleagues but justifies it by saying they were being rude first.
  - a. Identify the defense mechanism.
  - b. Who proposed this concept?
11. A child raised in a collectivistic society emphasizes harmony and family ties.
  - a. Which aspect of the self is dominant?
  - b. How does culture influence self-concept?
12. A girl often denies having made mistakes and blames others.
  - a. Identify the ego defense mechanism involved.
  - b. How can these affect mental health?
13. Rohit dreams of achieving great things and believes it is his life goal.
  - a. Which type of trait is this as per Allport?
  - b. How is it different from secondary traits?
14. Sameera prefers staying alone, avoids groups, and loves reading.
  - a. What type of personality does she reflect?
  - b. Which psychologist introduced this concept?
15. A person draws an emotionally charged image when asked to draw a person.
  - a. What kind of assessment technique is this?
  - b. How does it help in understanding personality?

## 2. Poster/Article Writing (Choice-Based)

Choose any one of the following tasks and complete it on an A4 size sheet:

- Option 1: Poster Making on the topic: "Mental Health Matters"
  - Use slogans, facts, and illustrations
  - Focus on creating awareness and promoting positive mental health
- Option 2: Article Writing on any one topic related to Class XII Psychology syllabus
  - Suggested topics: Psychological Disorders, Therapeutic Approaches, Attitude and Social Cognition, Psychology and Life, Meeting Life Challenges, Social Influence and Group Processes, Intelligence and Aptitude Testing or any famous Psychologist.
  - Word limit: 200–250 words
  - Should include facts, personal views, and suggestions



1. ALANKAR, KAN, MEEND
2. TIME THEORY OF INDIAN RAGAS
3. NOTATION OF DRUT KHAYAL IN RAAG BHAIKAV
4. NOTATION OF TARANA IN RAAG BHAIKAV
5. NOTATION OF BADA KHAYAL IN RAAG BHAIKAV
6. LIFE SKETCH OF FIAZ KHAN



7. JHAP TAAL DESCRIPTION AND NOTATION
8. SANGEET RATNAKAR GRANTH
9. MAKE CHART RELATED WITH ANY CLASSICAL SINGER.



✓ Solve the following Assignment in your IP notebook.

- 1) List any four features of Series.
- 2) Pranjal wants to display the last four rows of the dataframe df and has written the following code:  
`df.tail()`  
But last 5 rows are being displayed. Identify the error and rewrite the correct code so that last 4 rows get displayed.
- 3) Differentiate between Series and DataFrame.
- 4) Create a chart on various data structures in Pandas on A4 sheet.
- 5) Create a powerpoint presentations on application of dataframes.



#### Practical:

Complete all 11<sup>th</sup> & 12<sup>th</sup> - 15 sheets

April to June sheets according to topics

1. Illustrations (3) 22/30 cm size
2. Advertisement (1) Half Chart
3. Posters (2) Half Chart
4. Calligraphy with doodle on Half Chart

#### Theory:

1. Learn Bengal School of art origin and development.
  - i. Characteristics of Bengal school of Art
  - ii. Shiva and Sati
  - iii. Radhika
  - iv. Meghdoot
2. Contribution of Indian artist on the struggle for National Freedom Movement
3. Paintings Descriptions of Bengal School of Art:-Journey's End
4. National Flag of India and symbolic significance of its forms and the colours

