

VIVEKANAND PUBLIC SCHOOL

HOLIDAY HOMEWORK Class XII

(Session 2024-25)

From Principal Desk

Dear Students and Parents,

As we embark on the summer vacation, I want to remind you to the importance of continued learning and growth during this time away from school.

To ensure that our students remain engaged and academically stimulated, we have assigned summer vacation homework for all classes. This homework is designed to reinforce concepts learned throughout the year and to prepare students for the upcoming academic term.

I urge all students to approach their summer homework with diligence and responsibility. Completing these assignments will not only enhance your academic skills but also help you start the new school year on the right foot.

Parents, your support in encouraging your children to complete their summer homework is invaluable. By working together, we can ensure that our students continue to thrive academically.

Should you have any questions or concerns regarding this summer vacation homework, please do not hesitate to reach out to your child's teacher or the school administration.

Wishing everyone a productive and enjoyable summer break!

Warm regards,

(Nancy Khanna)

Principal

Vivekanand Public School

GENERAL INSTRUCTIONS:

- Assignments should be done neatly on the **A4 ruled** sheets
- Projects files to be compiled in the ring file and it should be properly covered.
- Holiday Homework should be submitted by **5th July 2024**.
- Holiday Homework should be the **individual work** of the students and should be copied from anywhere.
- Projects should be **strictly** made on the guidelines prescribed.
- Projects should be submitted within **1st week of July**.

VIRTUE AND KNOWLEDGE
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VIVEKANAND PUBLIC SCHOOL

Class XII

Holiday Homework (2024-25)

Contents

1. Accountancy
2. Business Studies
3. Biology
4. Chemistry
5. Computer Science
6. Economics
7. English
8. History
9. Mathematics
10. Physical Education
11. Physics
12. Political Science





ACCOUNTANCY

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PROJECT GUIDELINES

Students will prepare a Project File to record their work related to the problems attempted by them in the following format :

1. First page of the file should describe title of work, identity of student, school, and the teacher concerned.
2. Index to indicate columns for title of work, page no., date, teacher's remarks and signature.
3. The format for Project Work will be :
 - ☆ Statement of the problem/Name of the Project
 - ☆ Objectives
 - ☆ Period of Study
 - ☆ Source Material
 - ☆ Tools of Analysis used
 - ☆ Processing and Tabulation of data
 - ☆ Diagrammatic/graphic presentation- pie-diagrammes, bar diagrammes and graphs.
 - ☆ Derivations, Interpretation and Conclusion.
 - ☆ Assumptions (if any)

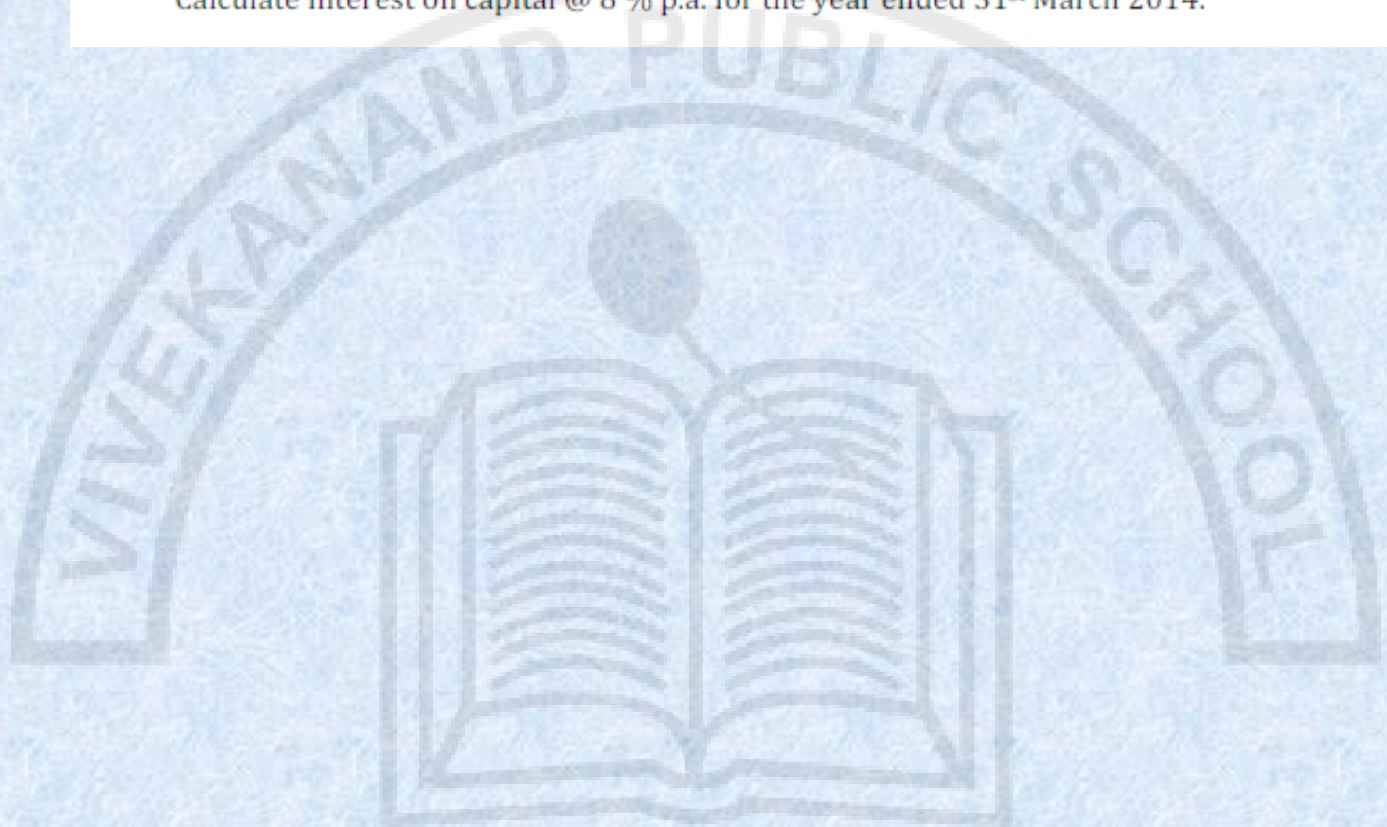
Project File should be neatly handwritten and presentable with page numbers. Each step of the solution needs to be highlighted. Conclusions drawn should be placed in boxes at the end.

ASSIGNMENT -1

1. A Partnership deed provides for the payment of interest on capital but there was a loss instead of profit during the year 2013-14. At what rate will the interest on capital will be allowed to the partners.
2. What is meant by Unlimited Liability of a Partner?
3. X and Y are partners in a firm having not partnership deed. X and Y have contributed Rs.2,00,000 and Rs.4,00,000 respectively as capitals. Y wants that profit should be distributed in the ratio of capitals and interest on capital should be 10% p.a. but X does not agree to this. State giving reason who is correct in this case.
4. X and Y are partner sin a firm having no partnership deed. X desires that Y should not participate in the conduct of the firm's business and will not get any interest on capital but Y does not agree to this. State giving reason who is correct in this case.
5. X and Y started business on 1.1.2013 with capitals of Rs.1,20,000 and Rs.80,000 respectively. During the year, A introduced Rs.20,000 to the firm as additional capital on 1.7.2013. They withdrew Rs.1,000 per month for the house expenses in lieu of profit. Interest on capital is to be allowed @ 10% per annum. Calculate the interest payable to X and Y for the year ending 31.12.2013.
6. Vinod and Kumar started business on 1st April, 2013 with capitals of Rs.5,00,000 and Rs.3,00,000 respectively. On 1st October 2013 they decided that their capitals should be 4,00,000 each. The necessary adjustment in the capitals were made by introducing or withdrawing cash. Interest on capital is allowed at 8% p.a. Calcualte the interest on Kumar's Capital on 31st March 2014.
7. A and B are partners and they had Rs.2,00,000 and Rs.3,00,000 in their respective capital accounts as on 1st April 2013. A paid in further Rs.25,000 on I November 2013 and another Rs.25,000 on 15 February 2014. Calculate the Interest on capital for A when rate of interest on capital is 6% p.a.
8. X and Y are partners sharing profit and loss in the ratio 3:2. Their capitals on 1 April 2013 were Rs.1,00,000 and Rs.80,000. On 1st July 2013 X introduced Rs.20,000 as his additional capital and Y introduced Rs.2,000 only. Find out interest on capital for both the partners @ 10% p.a.
9. M and R are partners in a firm. Their capital accounts showed the balance on January 1, 2000 as Rs.40,000 and Rs.30,000 respectively. During the year, M introduced additional capital of Rs.20,000 on May 1, 2000 and R brought in further capital of Rs.30,000 on July 1, 2000. R withdrew Rs.10,000 from her capital on October 1,

2000. Interest is allowed @6% p.a. on the capitals. Calculate the interest to be paid on capital.

10. X and Y are partners in a firm sharing profits equally. Their capitals on 31st March 2014 were Rs.2,40,000 and Rs.1,80,000 respectively. Drawings of the partners to the date were Rs.40,000 and Rs.60,000 respectively. Profit for the year was Rs.1,60,000. Calculate interest on capital @ 8 % p.a. for the year ended 31st March 2014.



ASSIGNMENT -2

1. State the purpose of allowing interest on drawings of a partner.
2. What is the difference between drawings against profit and drawings against capital?
3. Where would you record the interest on drawings when capitals are fixed?
4. X, Y and Z are partners sharing profits equally. They have decided that no interest on drawings is to be charged to any partner. But after one year 'Z' wants that interest on drawings should be charged to every partner. State how 'Z' can do this.
5. Calculate interest on drawings of Mr. Vinod @ 8% p.a. for the year ended 31st March, 2014 in each of the following cases:
Case 1: If he withdrew Rs.2,000 at the beginning of each year.
Case 2: If he withdrew Rs.2,000 during the middle of each month.
Case 3: If he withdrew Rs.2,000 at the end of each month.
6. Calculate interest on drawings of Mr. Vinod @ 10% p.a. for the year ended 31st March, 2014 in each of the following cases:
Case 1: If he withdrew Rs.1,000 at the beginning of each Quarter.
Case 2: If he withdrew Rs.1,000 during the middle of each Quarter.
Case 3: If he withdrew Rs.1,000 at the end of each Quarter.
7. Find out interest on drawing of Mr. Vinod, if he withdrew Rs.2,000 in the beginning of every month for six months ended 31st March 2014. Rate of interest on drawings is 6% p.a.
8. Find out interest on drawing of Mr. Vinod, if he withdrew Rs.2,000 at the end of every month for six months ended 31st March 2014. Rate of interest on drawings is 6% p.a.
9. Find out interest on drawing of Mr. Vinod, if he withdrew Rs.2,000 in the middle of every month for six months ended 31st March 2014. Rate of interest on drawings is 6% p.a.
10. Drawing of Mr. Vinod during the year was Rs.10,000. Calculate interest on drawings @10% p.a. for the year ended 31st March 2014.
11. Drawings of Mr. Vinod during the year was Rs.20,000. Calculate interest on drawings @10% irrespective of time period for the year ended 31st March 2014.
12. Calculate interest on drawing of Mr. Vinod @ 10% p.a. for the year ended 31st March 2014 in each of the following cases:
(a) If he withdrew Rs.500 per month during the year.
(b) If he withdrew 2,000 in each quarter.

13. Vinod is a partner in a firm. He withdrew the following amounts during the year 2013:

January 31	Rs.6,000
March 31	Rs.4,000
June 30	Rs.8,000
September 30	Rs.3,000
October 31	Rs.5,000

The interest on drawings is to be charged @6% p.a. Assuming the accounting year closes on December 31 each year, calculate interest on drawings to be debited to Mr. Vinod.

14. Vinod and Mohan were partners in a firm. The partnership agreement provided that interest on drawings was to be charged @12% p.a. Vinod had withdrawn the following amounts during the year ended 31.12.2013:

January 1	Rs.10,000
March 31	Rs.16,000
July 1	Rs.20,000
Deember 31	Rs.4,000

Calculate interest on Vinod's Drawings.

BUSINESS STUDIES



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Q1. DO ANY ONE PROJECT AS PER THE GUIDELINES GIVEN BELOW

**GUIDELINES FOR PROJECT OF BUSINESS STUDIES
(2024-25)**

I. Principles of Management

The students are required to visit any one of the following:

1. A departmental store.
2. An Industrial unit.
3. A fast food outlet.
4. Any other organisation approved by the teacher.

They are required to observe the application of the general Principles of management advocated by Fayol.

Fayol's principles

1. Division of work.
2. Unity of command.
3. Unity of direction.
4. Scalar chain
5. Espirit de corps
6. Fair remuneration to all.
7. Order.
8. Equity.
9. Discipline
10. Subordination of individual interest to general interest.
11. Initiative.
12. Centralisation and decentralisation.
13. Stability of tenure.

OR

They may enquire into the application of scientific management techniques by F.W.Taylor in the unit.

Scientific techniques of management.

1. Functional foremanship.
2. Standardisation and simplification of work.
3. Method study.
4. Motion Study.
5. Time Study.
6. Fatigue Study
7. Differential piece rate plan.

Students may use worksheets, questionnaire, interviews and organisational chart etc.

II. Marketing

Students can select any one of the following product-

1. Adhesives
2. Air conditioners
3. Baby diapers

4. Bathing Soap
5. Bathroom cleaner
6. Bike
7. Blanket
8. Body Spray
9. Bread
10. Breakfast cereal
11. Butter
12. Camera
13. Car
14. Cheese spreads
15. Chocolate
16. Coffee
17. Cosmetology product
18. Crayons
19. Crockery
20. Cutlery
21. Cycle
22. DTH
23. Eraser
24. e-wash
25. Fairness cream
26. Fans
27. Fruit candy
28. Furniture
29. Hair Dye
30. Hair Oil
31. Infant dress
32. Inverter
33. Jams
34. Jeans
35. Jewellery
36. Kurti
37. Ladies bag
38. Ladies footwear
39. Learning Toys
40. Lipstick
41. Microwave oven
42. Mixers
43. Mobile
44. Moisturizer
45. Music player
46. Nail polish
47. Newspaper
48. Noodles
49. Pen
50. Pen drive
51. Pencil
52. Pickles
53. Razor
54. Ready Soups



55. Refrigerator
56. RO system
57. Roasted snacks
58. Salt
59. Sarees
60. Sauces/ Ketchup
61. Shampoo
62. Shaving cream
63. Shoe polish
64. Shoes
65. Squashes
66. Suitcase/ airbag
67. Sunglasses
68. Tea
69. Tiffin Wallah
70. Toothpaste
71. Wallet
72. Washing detergent
73. Washing machine
74. Washing powder
75. Water bottle
76. Water storage tank
77. Wipes

The identified product should not be items whose consumption/use is discouraged by the society and government like alcohol products/pan masala and tobacco products, etc.

The students are required to make a project on the identified product/service keeping in mind the following:

1. Why have they selected this product/service?
2. Find out '5' competitive brands that exist in the market.
3. What permission and licences would be required to make the product?
4. What are your competitors Unique Selling Proposition.[U.S.P.]?
5. Does your product have any range give details?
6. What is the name of your product?
7. Enlist its features.
8. Draw the 'Label' of your product.
9. Draw a logo for your product.
10. Draft a tag line.
11. What is the selling price of your competitor's product?
 1. Selling price to consumer
 2. Selling price to retailer
 3. Selling price to wholesaler

What is the profit margin in percentage to the

- Manufacturer.
 - Wholesaler.
 - Retailer.
12. How will your product be packaged?

13. Which channel of distribution are you going to use? Give reasons for selection?
14. Decisions related to warehousing, state reasons.
15. What is going to be your selling price?
 1. To consumer
 2. To retailer
 3. To wholesaler
16. List 5 ways of promoting your product.
17. Any schemes for
 1. The wholesaler
 2. The retailer
 3. The consumer
13. What is going to be your 'U.S.P'?
14. What means of transport you will use and why?
15. Draft a social message for your label.
16. What cost effective techniques will you follow for your product.
17. What cost effective techniques will you follow for your promotion plan.

At this stage the students will realise the importance of the concept of marketing mix and the necessary decision regarding the four P's of marketing.

- Product
- Place
- Price
- Promotion

On the basis of the work done by the students the project report should include the following:

1. Type of product /service identified and the (consumer/industries) process involve there in.
2. Brand name and the product.
3. Range of the product.
4. Identification mark or logo.
5. Tagline.
6. Labeling and packaging.
7. Price of the product and basis of price fixation.
8. Selected channels of distribution and reasons thereof.
9. Decisions related to transportation and warehousing. State reasons.
10. Promotional techniques used and starting reasons for deciding the particular technique.
11. Grading and standardization.

Presentation and Submission of Project Report

Following essentials are required to be fulfilled for its preparation and submission.

1. The total length of the project will be of 25 to 30 pages.
2. The project should be handwritten.
3. The project should be presented in a neat folder.
4. The project report should be developed in the following sequence
 - Cover page should include the title of the Project, student information, school and year.
 - List of contents.
 - Acknowledgements and preface (acknowledging the institution, the places visited and the persons who have helped).

- Introduction.
- Topic with suitable heading.
- Planning and activities done during the project, if any.
- Observations and findings of the visit.
- Conclusions (summarized suggestions or findings, future scope of study).
- Photographs (if any).
- Appendix
- Teacher's observation.
- Signatures of the teachers.

ASSESSMENT

Allocation of Marks = 20 Marks

The marks will be allocated under the following heads:

1	Initiative, cooperativeness and participation	2 Mark
2	Creativity in presentation	2 Mark
3	Content, observation and research work	4 Marks
4	Analysis of situations	4 Marks
5	Viva	8 Marks
	Total	20 Marks

ASSIGNMENT -1

Q 1. Fill in the blanks.

1. The welfare and survival of an organization are the main functions performed by _____ level of management.
2. Management is a _____ function to have adapt itself to the changing environment.
3. Priya is using environmental friendly methods of production .She is trying to achieve _____ objective of management.
4. According to _____ principle of Fayol ,every subordinate must have only 1 boss.
5. Remuneration will be fair when it gives _____ of living to employees.
6. Functional foremanship is extension of _____ principle of Fayol.
7. The concentration of decision making authority in the hands of management is known as _____.

8. The most simple and the shortest mode of distribution is _____ Distribution.
9. The first step in a typical buyer –seller relationship is _____.

10. The most commonly adopted distribution network for most consumer goods like soaps ,rice etc.is _____ channel .

Q 2. Multiple choice questions.

1. Profit is essential for covering cost and risk of the business. Which management objective is discussed here?
 - a) Social objective
 - b) Organisational objective
 - c) Personal objective
 - d) Individual objective
2. Identify the feature of management as a science when the principles are based on cause and effect relationship.
 - a) Based on practice and creativity
 - b) Universal validity
 - c) Systematised body of knowledge
 - d) Based on existence of theoretical knowledge
3. In order to enter into profession one has to acquire an educational degree by clearing specified examination conducted by registered institutes. Which feature of profession is being revealed?
 - a) Restricted entry
 - b) Ethical code of conduct
 - c) Professional association
 - d) Well defined body of knowledge
4. Which level of management is responsible for the welfare and survival of organization?
 - a) Middle level
 - b) Supervisory level

- c) Operational level
d) Top level
5. "One head One plan" is concerned with the following principle of Fayol
- A. Unity of command
 - B. Unity of Direction
 - C. Fair remuneration
 - D. Division of work
6. Functional foremanship is an extension of which of the following principles:
- A) division of work
 - B) discipline
 - C) subordination of individual interest to general interest
 - D) Espirit de Corps
7. Number of specialist in technique of functional foremanship is-
- A) 4
 - B) 8
 - C) 10
 - D) 6
8. Which type of distribution channel is the most suitable for Consumer Goods?
- (a) Zero-level
 - (b) One-Level
 - (c) two-level
 - (d) three-Level
9. Japanese technique 'Just In Time' is related to which component of Physical Distribution(Application)
- (a) Order Processing
 - (b) Transportation
 - (c) Warehousing
 - (d) Inventory Control
10. A brand or part of a brand that is given legal protection is called-
- (a) Brand name
 - (b) Trade Mark
 - (c) Brand mark
 - (d) Logo

Q 3. State true or false.

1. The basic objective of any profession is to earn money.
2. Middle level of management implement the policies framed by top level of management.
3. Co-ordination without Co-operation may lead to dissatisfaction among employees.
4. Organisation structure is an important means, the wrong structure will seriously destroy the business.
5. Smooth flow of communication is not the result of proper organization structure.
6. Delegation is compulsory, decentralization is optional.

7. Packaging aids a firm in its advertising and display programmes.
8. Bata sells shoes through its own retail outlets are using one-level distribution channel.
9. When the manufacturer has limited product line and has to cover a wide market he can use his own selling agents.
10. Three level distribution channel enables the manufacturer to cover wide area of network while retaining control over the channels.

ASSIGNMENT -2

Q 1. Very short questions.

1. List any two indicators of growth of an organisation. (2 marks)
2. Name any two important characteristics of management. (2 marks)
3. State the main objective of time study. (2 marks)
4. What makes principles of management flexible? (2 marks)
5. Why is “marketing” referred to as a social process? (2 marks)
6. Distinguish between selling concept and marketing concept of marketing management philosophies on the basis of main focus. (2 marks)

Q 2. Short questions.

1. Discuss the basic features of management as a profession. (3 marks)
2. Why is management considered a multi-faceted concept? (3 marks)
3. Management is to be considered both science and art. Explain. (3 marks)
4. Name and explain the principle of management in which workers should be encouraged to develop and carry out their plans for improvement in the organisation. (3 marks)
5. If an organisation does not provide the right place for physical and human resources in an organisation, which principle is violated? What are the consequences of it?

(3 marks)

6. How is the Principle of ‘Unity of Command’ useful to management? Explain briefly. (3 marks)
7. Distinguish between the product concept and production concept of marketing. (3 marks)
8. Enlist the advantages of packaging of a consumer products. (3 marks)

9. Product is a bundle of utilities. Do you agree? Comment

Q 3. Long questions.

1. Coordination is the essence of management. Do you agree? Give reasons. (5 marks)
2. Explain the features of management that do not establish it as a profession. (4 marks)
3. Explain the principles of scientific management. (4 marks)
4. Explain briefly 'discipline' and 'scalar chain' as principles of general management. (4 marks)
5. Define marketing management. State any three objectives of marketing management. (4 marks)
6. What is meant by packaging? State any four functions of packaging? (5 marks)

Q 4. Case studies.

1. H. Tech Ltd. Is a company producing IT services. The company's profits are enough for the survival and growth. The management of the company believes that a satisfied employee creates a satisfied customer, who in turn creates profits that lead to satisfied shareholders. So, it pays competitive salaries and perks to its all employees. All the employees are happy working in the organization because of personal growth and development. The company has a strong sense of social responsibility. It has set up an engineering college in which one third of the students are girls to whom the company gives 50% scholarship. Is the management of H. Tech Ltd. Fulfilling its objectives? Justify your answer by giving reasons. (6 marks)
2. The management of Vrinda Ltd. Strongly believes that the members of an organization should work towards fulfilling the common organizational goals. This requires team work and integration of efforts of all individuals, departments and specialists. This is because all the individuals and departments depend on each other for information and resources to perform their respective activities. Managers need to reconcile differences in approach, timing, effort or interest. At the same time it should enable all its members to grow and develop. Thus, there is a need to harmonize individual goals and organizational goals.

- i. Identify the concept of management discussed above.
- ii. State any three features of the concept identified in (a).
- iii. Identify and explain the characteristic of management which is reflected from the above para. (6 marks)

3. Sanjana is the branch manager of ABC Handicrafts Pvt. The company's objective is to promote the sales of Indian handloom. And handicraft products. Its sells fabrics, furnishings, ready- makes and household items are made out of traditional Indian fabrics. Sanjana decides quantities, variety, colour and texture of all the above items and then allocates resources for their purchase form different suppliers. She appoints a team of designers and crafts people in the company, who developed some prints for bed covers in bright colour on silk. Although they looked very impressive, they were more expensive than they had planned to sell. Average customer could not afford to buy it. Praising their effort, Sanjaja suggested that they should keep the silk bed covers for special occasions like Diwali and Christmas and offer the cotton bed covers on a regular basis to keep costs under control.

Identify the functions of management which Sanjaja performs by quoting the lines the above para. (5 marks)

4. Sigma Ltd. Is a large company manufacturing electric motors. The company has several departments – Production, Marketing, Finance and HR. Mr. Shashank, CEO of the company set the target sale of 10 crore in a month. To increase the sales, the marketing manager, Mr. Ishaan insists on offering 10% discount to customers. But the finance manager, Mr. Mohak does not approve such discount as it would mean loss of revenue. Because of dual subordination, the sales manager, Mr. Anshik could not achieve the sales target.
- i. Which concept of management Sigman Ltd. Is lacking? State it.
 - ii. Which principle of management has been overlooked by this company? State it.
 - iii. Which principle of management has been overlooked by this company? State it. (6 marks)
5. Soniya Ltd. Was engaged in the business of manufacturing auto components. Lately, its business was expanding due to increased demand for cars. The competition was also increasing. In order to keep its market

share intact, the company directed its workforce to work overtime. But this resulted in many problems.

Due to increased pressure of work the efficiency of workers declined. Sometimes, the subordinates had to work for more than one superiors. The workers were becoming indisciplined. The spirit of teamwork, which had characterized the company previously, had begun to wane.

Identify any three principles of management (as given by Henry Fayol) which were begin violated, quoting the lines from the above case. (6 marks

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6. Radhika opens a jewelry showroom in Jaipur after completing a course in jewelry designing. She has employed eleven persons in her showroom. For greater productivity, she divides the work into small tasks and each employee is trained to perform his/her specialized job. The sales persons are allowed to close a deal with a buyer by giving a maximum of 10% discount, whereas the decision to given any further discount rests with Radhika as the final authority. In the earlier days of starting of the business, five of her employees were asked to put in extra hours of work. In return she had promised to give them a special incentive within a year. Therefore, after six months when the business was doing well, she awarded a cash bonus to each of these employees to honour her commitment. However, when it comes to setting the conflicts among her employees, she tends to be more biased towards her female employees.

In context of the above case:

- i. Identify and explain the various principles of management that are being applied by Radhika by quoting lines from the paragraph.
 - ii. Identify and explain the principle of management which is being violated by Radhika by quoting lines from the paragraph.
 - iii. State any one effect of the violation of the principle of management by Radhika as identified in part (b) of the question. (6 marks)
7. 'Haryaram' is a famous chain selling a large variety of products in the Indian market. Their products include chips, biscuits, sweets and squashes. It charges a comparatively higher price than its competitors as it sells quality products. Besides, it offers regular discounts to its customers and easy credit terms to its retailers. It has five of its own retail shops. It also sells its products through various grocery stores to that the products are made

available to customers at the right place, in the right quantity and at the right time. It regularly uses different communication tools to increase its sales. The above para describes the combination of variables used by Hayaram to prepare its market offering. Identify and explain the variables. (6 marks)

8. Arvind is planning to start a company manufacturing room fresheners. He intends to use natural fruit extracts for adding fragrance to them. He estimates an investment of Rs. 20 crores to set up the factory. As it is difficult for him to raise the entire capital amount alone, he gives a partnership offer to his school friend, Sanjay who is an angel investor. Sanjay, after being convinced about the feasibility of the project, accepts his offer. Sanjay tells Arvind that they should also focus on other important decisions related to the product 'room fresheners' besides deciding about its features, variety and quality. Branding is one of the important such decision. In the context of above case:
- Name any other two important decisions related to a product.
 - Why is branding considered as an important function by the marketers? Give any one reason in support of your answer.
 - State any four features of a good brand name. (6 marks)
9. 'Shudh Hava Ltd.' Is engaged in manufacturing of air conditioners and desert coolers. The company offers a wide range of products to meet the requirements of people from varied income groups. Recently the company has developed a new product, an air purifier that improves the quality of air by filtering out all allergens and microbes. The company introduced the product on two variants namely 'Nano Tech' and 'Nano Tech Premium'. In order to persuade people to buy the product it is offering easy payment options in equal monthly installments for different time periods.

Moreover, every buyer will be offered 'scratch a card' option to win instant gifts like decorative items, T-shirts etc. the company is also planning to organize competitive events based on skill and luck in various malls in different cities. In the context of above case:

- Name and explain the 'type of promotion strategy' adopted by the company to boost the sales of air purifiers. ii. Also, identify the various techniques of this promotional strategy being used by the company by quoting lines from the paragraph
- "The company offers a wide range of products to meet therequirements of people from varied income group." Name the relevant consumer right being promoted by the company. (6 marks)



BIOLOGY

VIRTUE AND KNOWLEDGE

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Prepare a project based on your syllabus.

Project should be based on the following headings...

-Title of the project

Index

-Reason/ relevancy for choosing the topic.

-Introduction of the topic

-Detailed Information of the topic

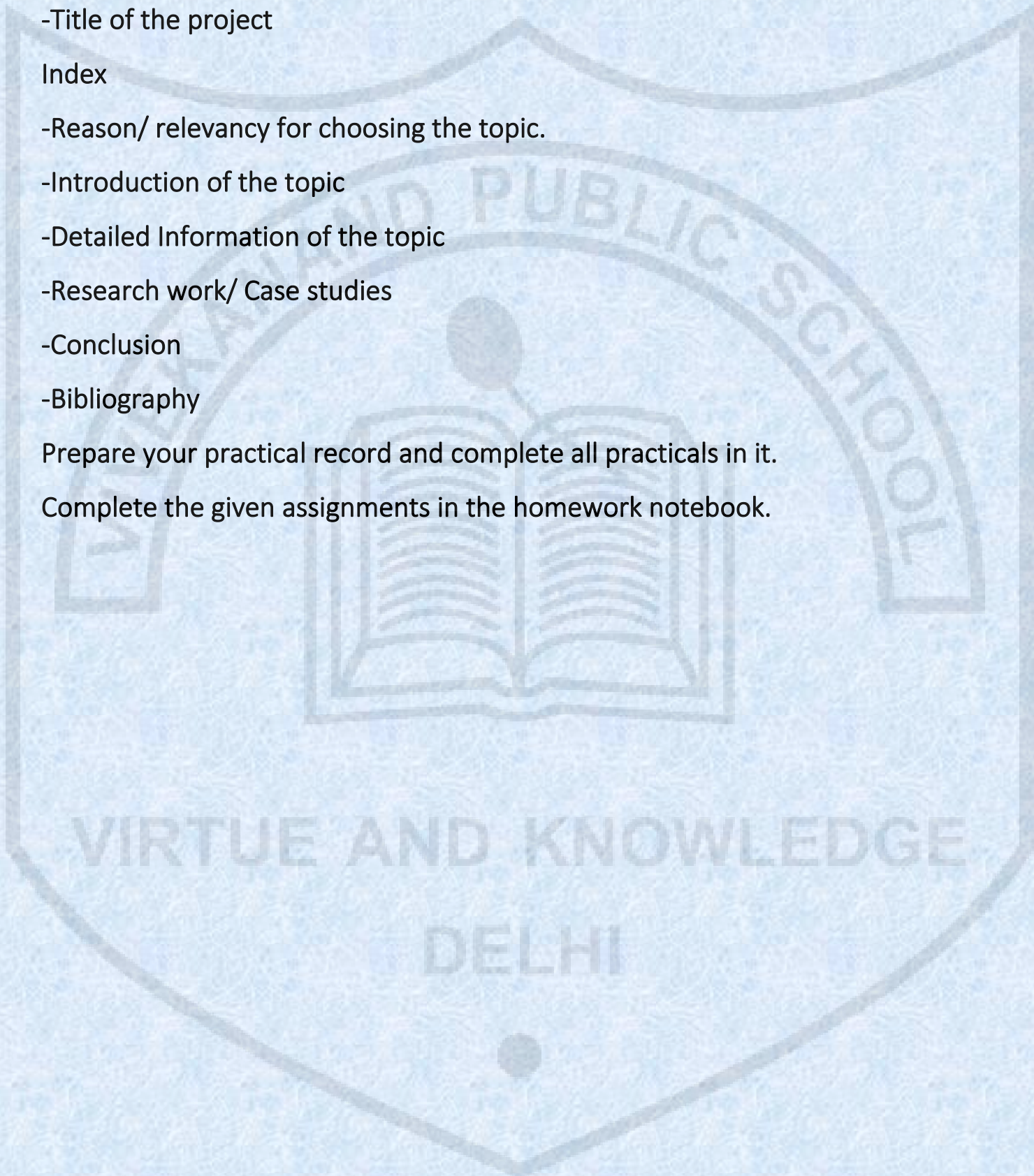
-Research work/ Case studies

-Conclusion

-Bibliography

Prepare your practical record and complete all practicals in it.

Complete the given assignments in the homework notebook.



ASSIGNMENT -1

- Qs.1 Draw a T. S. of anther and explain it.
- Q2 Explain megasporogenesis with diagrams.
- Q3. Explain microsporogenesis.
- Q4 Draw a labelled diagram of monocot and dicot seed.
- Q5 Explain different types of pollination with example.
- Q6. List post fertilization changes in angiosperms.
- Q7. Define apomixis. How are apomictic seeds useful to farmers.?
- Qs8. What is polyembryony. How is it formed?
- Q9. What are cleistogamous flowers? Is cross pollination possible in them? Why or why not?
- Q10. What are outbreeding devices? Explain.
- Q11. A farmer wants to stop inbreeding depression in one of the plants. What method should he adopt to prevent it? Explain.
- Q12. Give some characteristics of insect pollinated & wind pollinated flowers.
- Q13. How does vallisneria & hydrilla pollinate? Mention the process in brief.

ASSIGNMENT -2

- Q1. Compare between oogenesis and spermatogenesis.
- Q2. Explain menstrual cycle in human females.
- Q3. Explain events of fertilization in humans.
- Q4. Define implantation and its events.
- Q5. How does placenta work as an endocrine tissue?
- Q 6. What is colostrum? How is it important?
- Q 7. Explain ART & its various methods.
- Q8. Removal of gonads is not considered as a good contraceptive method. Why?
- Q9. What are different types of contraceptives? Explain with working & example of each.
- Q10. What is amniocentesis? Why is it banned?
- Q11. What are the reasons of population explosion in India?
- Q12. Draw a well labelled diagram of human gametes.
- Q13. Define the following terms-
- Menarche
 - Gastrulation
 - Parturition
 - Lactational amenorrhea

Seminal plasma

Q14. What is MTP? Under what conditions, should it be allowed?

Q15. Mention the function of the followings in humans -

Ovary

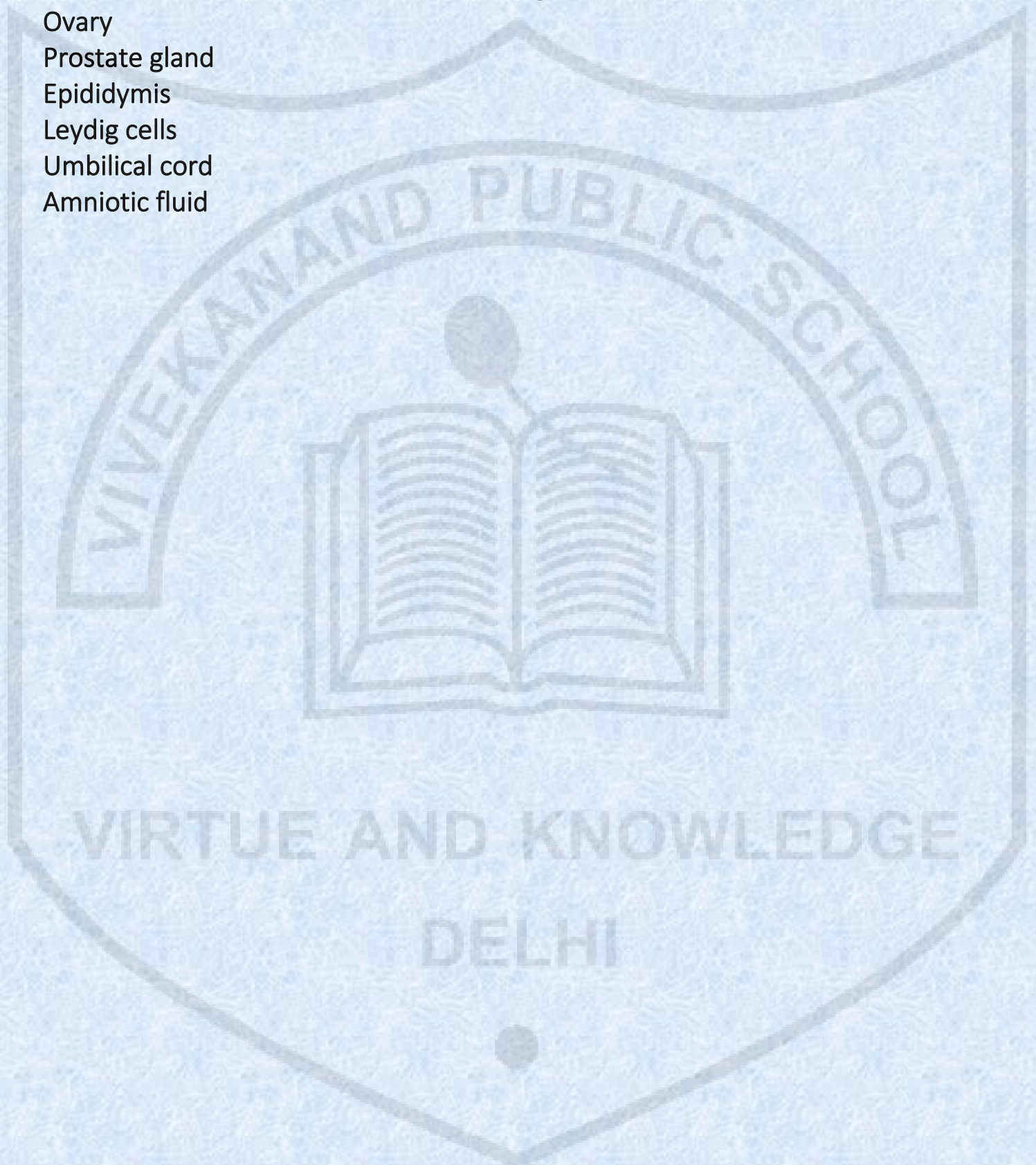
Prostate gland

Epididymis

Leydig cells

Umbilical cord

Amniotic fluid



[CLICK HERE FOR CONTENTS](#)



CHEMISTRY

VIRTUE AND KNOWLEDGE

DELHI

(1) Prepare project report as per the guidelines

Your project should have the following elements:

- **Synopsis** - This is a summary of your idea and should include the purpose of the experiment, procedure used, data, and conclusion
- **Research paper** - A research paper should be prepared and must be available along with the project data book with relevant written material. A research paper helps organize data as well as thoughts. A good paper includes the following sections:
 - **Title page** - Centre the project title, and put your name, address, and school
 - **Aim / Objective** - The introduction sets the stage for your report. The aim includes your hypothesis, an explanation of what prompted your research and what you hoped to achieve.
 - **Scientific Principle Involved** - In this section describe the principal involved.
 - **Material Used** - List all the items used here this will help you in working out the final cost.
 - **Method** - This section describes how you did the study. Describe in detail the methodology used to collect your data or make your observations. Your report should be detailed enough for someone to be able to repeat the experiment. Include photographs or drawings of self-designed equipment. The research work conducted by you may have taken more than a year. In such case, include this year's work only.
 - **Discussion** - This is the essence of your paper. The results and conclusions should flow smoothly and logically from your data. Be thorough. This should let the reader know exactly what you did, compare your results with theoretical values, published data and expected results. Include a section of possible errors. How did the data vary between repeated observations of a similar event? How were your results affected by uncontrolled events? What would you do differently if you were to repeat this project? What other experiments should be conducted?
 - **Conclusion** - This section describes the findings and conclusion of the project. Briefly summarize your results. Be specific, do not generalize. Never introduce anything in the conclusion that has not been discussed.
 - **Further scope of project** - This is a step further; here you describe the future scope of your experiment.
 - **Acknowledgement** - You should always give credit to those who assisted you; they may be individuals, educational or research institutions
 - **Reference list** - Your reference list should include any documentation that is not your own (i.e. books, journal articles, include specific internet url's).

For help you can click on the following link

<https://ncert.nic.in/pdf/publication/sciencelaboratorymanuals/classXI/chemistry/kelm208.pdf>

List of Project according to Roll Number and class wise

S No.	Topics	Roll No of XII-A, B & F
1.	Effect of Potassium Bisulphate as a food preservative	1, 34
2.	Quantity of the presence of casein in different samples of milk	2
3.	Extraction of various essential oils present in Ajwain (Carum), Illaichi (Cardamom), and Saunf (Fennel Seeds)	3, 35
4.	Paper chromatography	4
5.	Nano-gold for Cancer Therapy	5, 36
6.	Electrolyte turns on the solar cell	6
7.	Effects of Dye on different types of fabric	7, 37
8.	Comparative study of the rate of fermentation in the following substances- potato juice, wheat flour, carrot juice, gram flour, etc.	8
9.	Common food adulterants in fat, butter, oil, turmeric powder, pepper, chili powder, sugar, etc.	9, 38
10.	Removal of alcohol from the body through Esterification	10
11.	Sterilization of water using bleaching powder	11, 39
12.	Analysis of fertilizer	12
13.	Compare the rate of evaporation of water	13, 40
14.	Preparation of Toilet Soaps	14, 41
15.	To Prepare a Smoke Bomb	15, 42
16.	Acidity In Tea	16, 43
17.	Analysis Of Honey	17, 44, 48
18.	Study the effects of metal coupling on the rate of corrosion	18
19.	Variation of conductance with temperature in electrolytes	19
20.	Measurement of the diffusion coefficient in liquids	20
21.	Preparation of soya bean milk	21, 45
22.	Determining caffeine in tea samples	22, 46
23.	Catalytic decomposition	23
24.	Presence of pesticides and insecticides in fruits and vegetables	24, 47
25.	Invisible Ink: Modelling A Molecular Switch	25, 49
26.	Green Chemistry: Bio-Diesel and Bio-Petrol	26
27.	Determining the amount of phosphate in detergents	27
28.	Preparation of Potash Alum	28, 50
29.	The Neutralizing Ability of Antacid Tablets	29
30.	Effect Of Sodium Carbonate On the Foaming Capacity Of A Soap	30
31.	Extraction of Nicotine Sulphate from Samples of Cigarettes	31
32.	Using Zeolites as a Fertilizer	32
33.	Formation Of Biodiesel	33

(1) Complete the following Worksheet 1 and 2:

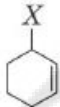

ASSIGNMENT -1

1. Give reason for the following. Aquatic animals are more comfortable in cold water than in warm water.
2. State Henry's law. Calculate the solubility of CO_2 in water at 298 K under 760 mm Hg. (K_H for CO_2 in water at 298 K is 1.25×10^6 mm Hg)
3. Calculate the molarity of 9.8% (w/w) solution of H_2SO_4 if the density of the solution is 1.02 g mL^{-1} . [Molar mass of $\text{H}_2\text{SO}_4 = 98 \text{ g mol}^{-1}$]
4. State Raoult's law for a solution containing volatile components. What is the similarity between Raoult's law and Henry's law?
5. (i) Gas (A) is more soluble in water than gas (B) at the same temperature. Which one of the two gases will have the higher value of K_H (Henry's constant) and why?
(ii) Explain why a solution of chloroform and acetone shows negative deviation from Raoult's law?
6. The vapour pressure of pure liquids A and B are 450 mm and 700 mm of Hg respectively at 350K. Find out the composition of the liquid mixture if total vapour pressure is 600 mm of Hg. Also, find the composition in the vapour phase.
7. A 4% solution (w/w) of sucrose ($M = 342 \text{ g mol}^{-1}$) in water has a freezing point of 271.15 K. Calculate the freezing point of 5% glucose ($M = 180 \text{ g mol}^{-1}$) in water. (Given: Freezing point of pure water = 273.15 K)
8. 45 g of ethylene glycol ($\text{C}_2\text{H}_6\text{O}_2$) is mixed with 600 g of water. Calculate
(i) the freezing point depression and
(ii) the freezing point of the solution. (Given, K_f of water = $1.86 \text{ K kg mol}^{-1}$)
9. A solution is prepared by dissolving 10 g of non-volatile solute in 200 g of water. It has a vapour pressure of 31.84 mm of Hg at 308 K. Calculate the molar mass of the solute. (Vapour pressure of pure water at 308 K = 32 mm Hg)
10. Some ethylene glycol, $\text{HOCH}_2\text{CH}_2\text{OH}$, is added to your car's cooling system along with 5 kg of water. If the freezing point of water-glycol solution is -15°C , what is the boiling point of the solution? ($K_b = 0.52 \text{ K kg mol}^{-1}$ and $K_f = 1.86 \text{ K kg mol}^{-1}$ for water)

ASSIGNMENT -2

(1) Complete the Questions: -

1. Write the structure of 2, 4-dinitrochlorobenzene.

2. Out of  and  which is an example of allylic halide?

3. Write the structure of 1-bromo-4-chlorobut-2-ene.

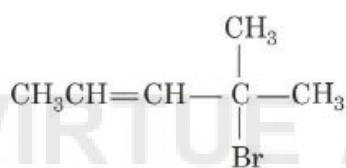
4. Write the structure of 3-bromo-2-methylprop-1-ene.

5. Draw the structure of 2-bromopentane.

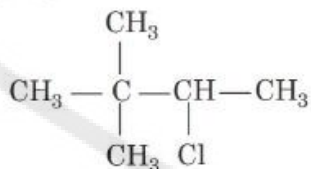
6. Write the IUPAC name of $(\text{CH}_3)_2\text{CH} \cdot \text{CH}(\text{Cl}) \text{CH}_3$.

7. Write the IUPAC name of $\text{CH}_3 - \underset{\text{Cl}}{\text{CH}} - \text{CH}_2 - \text{CH} = \text{CH}_2$

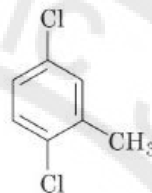
8. Write the IUPAC name of



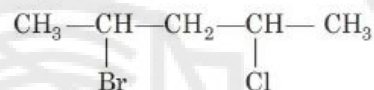
9. Write the IUPAC name of the following compound:



10. Write the IUPAC name of the following compound:

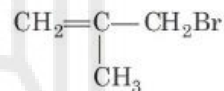


11. Write the IUPAC name of the following compound:



12. A hydrocarbon C_5H_{12} gives only one monochlorination product. Identify the hydrocarbon.

13. Give the IUPAC name of the following compound:



14. What happens when bromine attacks $\text{CH}_2 = \text{CH} - \text{CH}_2 - \text{C} \equiv \text{CH}$?

15. Write the IUPAC name of the following compound $(\text{CH}_3)_3\text{CCH}_2\text{Br}$.

16. Write the IUPAC name of the following compound: $\text{CH}_2 = \text{CHCH}_2\text{Br}$.

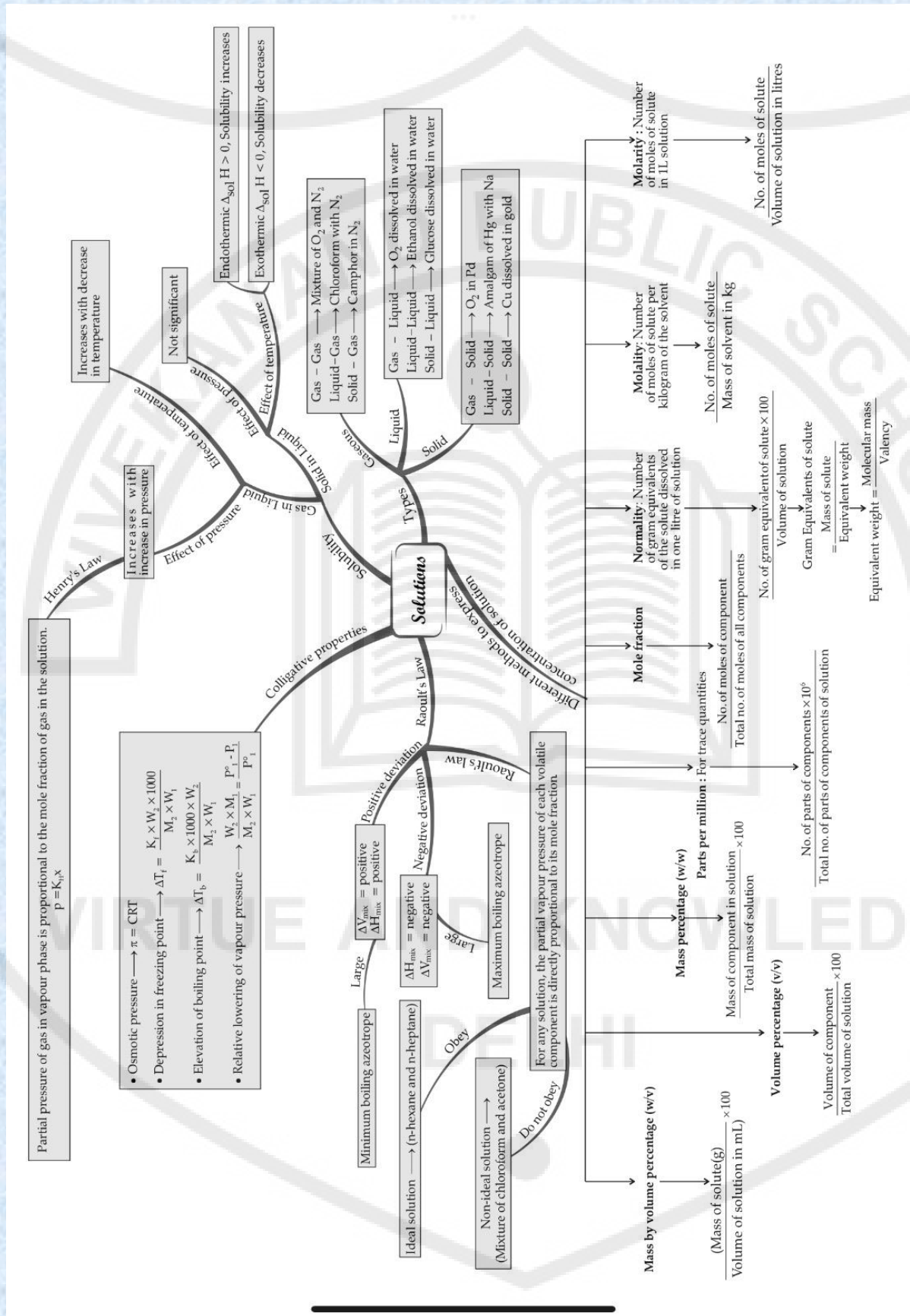
17. Draw the structure of 1,4-dibromobut-2-ene.

18. Draw the structure of 2-(2-bromophenyl)butane.

19. Draw the structure of 2-(2-chlorophenyl)-1-iodooctane.

20. Draw the structure of the following compound: 1-bromo-4-sec-butyl-2-methylbenzene

(3) Draw the following flowchart:



- Chiral : Objects which are non-superimposable.
- Achiral : Objects which are superimposable.



Halocarbons and Haloarenes

Reactions :

(a) Nucleophilic substitution
 (i) Resonance effect

(ii) Hybridisation of C in C-X bond :
 Haloalkane-sp³; Haloarene-sp²

(iii) Phenyl cation unstabilised by resonance

(b) Electrophilic substitution

Friedel-Crafts reaction

(c) Reaction with metals

Wurtz - Fittig reaction

Fittig reaction

Classification

- No. of halogen atoms
- Monohaloalkane
- Dihaloalkane
- Monohaloarene
- Dihaloarene
- Trihaloarene
- Compounds containing sp³ C-X bond
- (a) Alkyl halides
- (b) Allylic halides
- (c) Benzylic halides
- Compounds containing sp² C-X bond
- (a) Vinylic halides
- (b) Aryl halides
- Nomenclature
- Common name : Alkyl group followed by halides. Dihalogen derivatives, prefixes o-, m-, p- are used.
- IUPAC name : Numerals are used.
- Nature of C-X bond
- : Carbon-halogen bond is polarized.

=>Preparation

- From alcohol : ZnCl₂ → R-Cl + H₂O
- 3R-OH + PX₃ → 3R-X + H₃PO₃
- ROH + PCl₅ → R-Cl + POCl₃ + HCl
- From hydrocarbons :
- (a) By free radical halogenation
- CH₃CH₂CH₂CH₃ $\xrightarrow{Cl_2/h\nu}$ CH₃CH₂CH₂CH₂Cl + CH₃CH₂CH(Cl)CH₃
- (b) By electrophilic substitution
- CH₃ + X₂ $\xrightarrow{Fe, Dark}$ CH₃X + HX
- (c) Sandmeyer's reaction
- N₂X $\xrightarrow{Cu_2X_2}$ Ar-X + N₂
- (d) From alkenes
- H₂C=CH₂ + Br₂ $\xrightarrow{CCl_4}$ BrCH₂-CH₂Br

Halogen exchange :
 R-X + NaI → R-I + NaX

Properties :

- Physical : Colourless, volatile, sweet smell.
- Lower members are gases at room temperature while higher are solids.
- B.P : RI > RBr > RCl > RF
- M.P : Para isomers have high m.p. than ortho and meta - isomers.
- Density : Increases with increase in number of C/X atoms and atomic masses of the X atoms.
- Solubility : Very slightly soluble in water.

Chemical :

(a) Nucleophilic substitution

Nu⁻ + $\overset{\delta+}{C}-\overset{\delta-}{X} \rightarrow \overset{\delta+}{C}-Nu + X^-$

For S_N2 reaction
 Tertiary, Secondary, Primary

For S_N1 reaction
 Tertiary, Secondary, Primary

(b) Elimination reaction

B: $\begin{matrix} H & & \\ | & & \\ -C-C- & \rightarrow & C=C + B-H + X^- \\ | & & | \\ H & & X \end{matrix}$

B = Base; X = Leaving group

(c) Reaction with metals

CH₃CH₂Br + Mg \rightarrow CH₃CH₂MgBr

Wurtz reaction :
 2RX + 2Na $\xrightarrow{Dry\ ether}$ RR + 2NaX



COMPUTER SCIENCE

VIRTUE AND KNOWLEDGE

DELHI

Class XII

Subject : Computer Science

PROJECT GUIDELINES

The aim of the class project is to create something that is tangible and useful using Python file handling/ Python-SQL connectivity. This should be done in groups of two to three students and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve. Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, of course to do some of these projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves. The students should be sensitized to avoid plagiarism and violations of copyright issues while working on projects. Teachers should take necessary measures for this. Project is based on Python and SQL connectivity. Make a group of two students and select any topic .few examples are given below .You can choose any other also.

- Ticket Booking and Management in Python
- Hostel Management System Project in Python
- Sales Management System Project in Python
- Portfolio Management System in Python
- Contact Book project in Python
- Loan Management System Project in Python
- Hotel Management.
- Hospital Management.
- Event Management in Python.
- Airline reservation
- Railway reservation
- Bus Reservation
- NTA Exam management
- Voters management.
- Real Estate

Assignment-1

Instructions : Do this assignment in Your Computer Science register

Revision of Class XI

Q1 Which of the following identifiers are invalid and Why

- a)Serial_no b)True c)FOR d)total-marks e)Hundreds# f)123amt
g)nonlocal h)return

Q2)State True or False

- 1."Everything is an object in Python"
- 2 "mutable data types are those that can never change their value in place"
- 3."Changing in place means modifying the same value in same memory location."
4. "Python is an OOP language that stores any value or any type of data as an object"
5. "lexicographical ordering is implemented or ordinal value of the characters are compared"
6. "arithmetic operators have lower precedence then arithmetic operators"
- 7" $0.1+0.1+0.1==0.3$ "
- 8 $>>>k=2+3.5j \ >>> l=2+3.5j \ >>>K is l$
- 9 identity operators works differently with different objects even though both store the same value.
- 10 $\&, |, ^, \sim$ are bitwise operators

Q3 Evaluate

- a) $3^{3^{3^{3^{2}}}}$
b) $(5<10) \text{ and } (10<5) \text{ or } (3<18) \text{ and not } 8<18$

Do as directed :

Q4. Differentiate between the round() and floor() functions with the help of suitable example.

Q5. Which string method is used to implement the following:

- a. To count the number of characters in the string
- b. To change the first character of the string in capital letter
- c. To change lowercase to uppercase letter
- d. To check whether the given character is letter or a number

Q6. Differentiate between Keyword and identifier 4. Differentiate between Automatic Type conversion and Explicit type casting.

Q7. What are data type ? Explain None data type .

Q8. What is the difference between built-in functions and modules?

Q9.Explain Pass statement

Q10 Differentiate between Relational and logical operator.

Q11 . Which of the following is valid arithmetic operator in Python: (i)// (ii)? (iii)< (iv)and

Q12. Write the type of tokens from the following: (i) if (ii) roll_no

Q13. Which of the following are valid operators in Python: (i) ** (ii) */ (iii) like (iv) || (v) is (vi) ^ (vii) between (viii) in

Q14. Rearrange the following operators in Highest to Lowest Priority. % , or, ==, not, =

Q15 Evaluate following expressions:

- a) $18 \% 4 ** 3 // 7 + 9$
- b) $2 > 5$ or $5 == 5$ and not $12 <= 9$
- c) $16 \% 15 // 16$
- d) $51 + 4 - 3 ** 3 // 19 - 3$
- e) $17 < 19$ or $30 > 18$ and not $19 == 0$

Assignment -2

Ch-3 Functions in Python

Q1 What is the various types of functions with example

- i. Default arguments
- ii. keyword arguments
- iii. positional Arguments

Q2 Create a module lengthconversion.py that stores functions for various length conversions.

- miletokm()
- kmtomile()
- feettoinches()
- inchestofoot()
- inchestocm()
- cmtoinches()
- meterstofeet()
- feettometers()
- help()- it gives proper information about this module

Q 3 Differentiate between the void and non void functions

Q4 Write a function that takes a number as argument and calculate cube for it. the function does not return a value. if there is no value passed to the function in function call, the function should calculate cube of 2.

Q5 Predict the output of the Python code given below:

```
def Diff(N1,N2):
    if N1>N2:
        return N1-N2
    else:
        return N2-N1
NUM= [10,23,14,54,32]
for CNT in range (4,0,-1):
    A=NUM[CNT]
    B=NUM[CNT-1]
    print(Diff(A,B),'#', end= ' ')
```

Q6 Write a function INDEX_LIST(L), where L is the list of elements passed as argument to the function. The function returns another list named 'indexList' that stores the indices of all Non-Zero Elements of L.
For example: If L contains [12,4,0,11,0,56] The indexList will have - [0,1,3,5]

Q7 What do you understand by local and global scope of variables? How can you access a global variable inside the function, if function has a variable with same name.

Q8 Do SQL Queries

Consider the following table:

Table : ACTIVITY

ACode	ActivityName	Stadium	Participants Num	PrizeMoney	ScheduleDate
1001	Relay 100 × 4	Star Annex	16	10000	23-Jan-2004
1002	High Jump	Star Annex	10	12000	12-Dec-2003
1003	Shot Put	Super Power	12	8000	14-Feb-2004
1005	Long Jump	Star Annex	12	9000	01-Jan-2004
1008	Discuss Throw	Super Power	10	15000	19-Mar-2004

- i) Create the above table in the database DB1.
- ii) Add all the records in the above table.
- iii) Display all records.
- iv) Display activity name ,Participants Num from the above table .
- v) Display those activities where participants num is above 10.
- vi) Display all records where prize money is less than 10000.
- vii) Display the stadiums that offers sports activities.
- viii) Display Activity names that end with "jump".
- ix) Display Activity code where prize Money is between 5000 to 10000.
- x) Display the activity name that held in stdium starAnnex.
- xi) Display all records in descending order of Participants Num.
- xii) Display Date wise records of activities (in ascending order).

Q9 Consider the following tables RESORT:

Table : RESORT

RCODE	PLACE	RENT	TYPE	STARTDATE
R001	GOA	15000	5 STAR	12-Jan-02
R002	HIMACHAL	9000	4 STAR	20-Dec-07
R003	KERALA	12500	5 STAR	10-Mar-06
R004	HIMACHAL	10500	2 STAR	25-Nov-05
R005	GUJARAT	8000	4 STAR	01-Jan-03
R006	GOA	18000	7 STAR	30-Mar-08
R007	ORISSA	7500	2 STAR	12-Apr-99
R008	KERALA	11000	5 STAR	03-Mar-03
R009	HIMACHAL	9000	2 STAR	15-Oct-08
R010	GOA	13000	5 STAR	12-APR-06

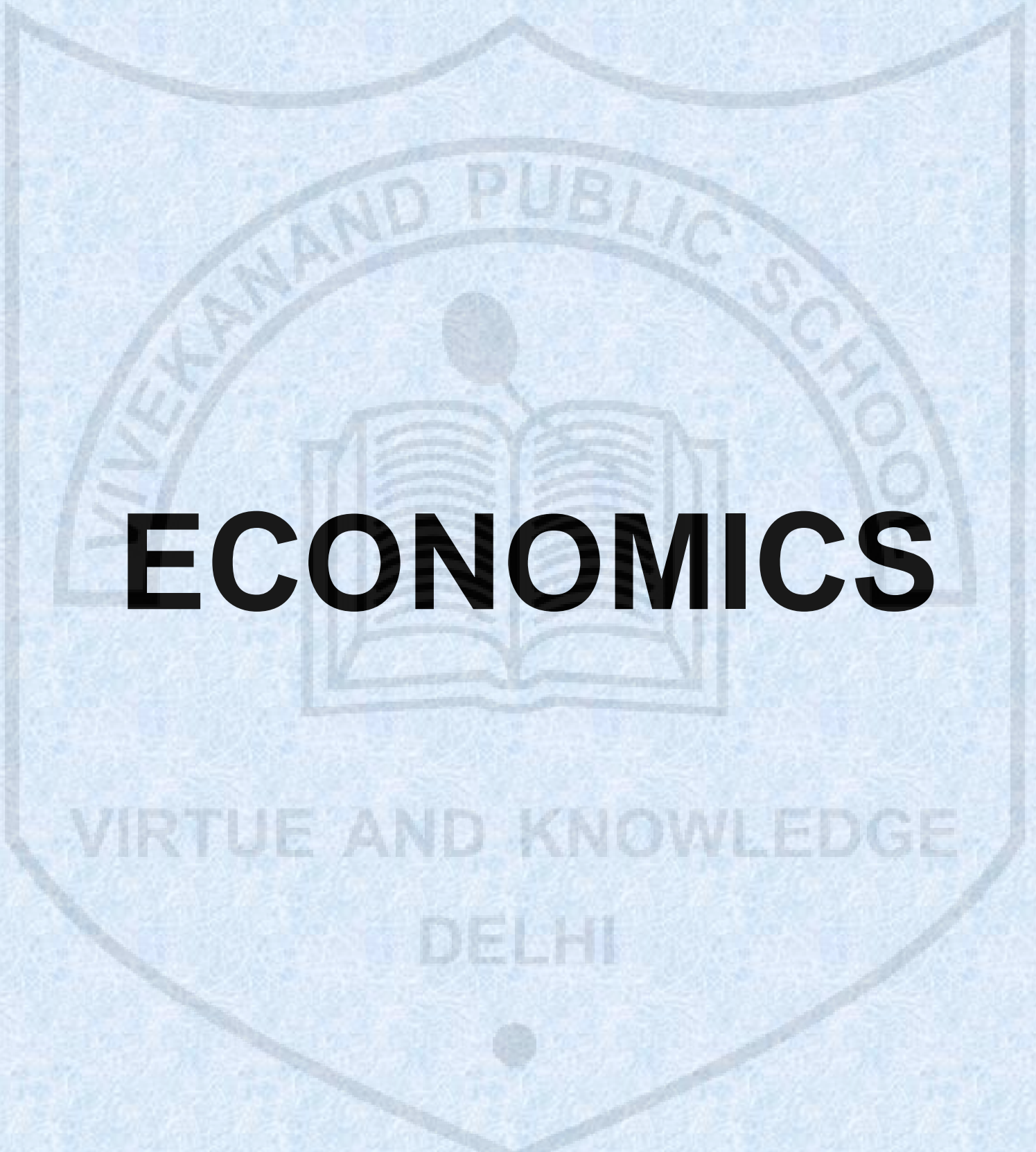
- i. Create the above table in the database DB1.
- ii. Add all the records in the above table.
- iii. Display all records.
- iv. Display Resorts code that exists in "Goa".
- v. Display records that rents falls in 10000-13000.
- vi. Display records of 5 star hotels.
- vii. Display 5 star hotels of "himachal".
- viii. List out all 2 stars and 4star hotels.
- ix. Display all resorts startdate above 30 Mar 2008.
- x. Display different types of Hotels.
- xi. Display all resorts place wise.

Q10 Do Alter Table clauses on the above table

- Add a column to a above table
- Change the Name of any Column.
- Modify the data type of any column.
- Remove any Column.
- Add primary key to above table.
- Remove Primary key
- Add any constraint to any column to table.

Q11 Do any three table based query from the back exercise of your book.

Note: Take the screen shots of all the above commands Q8,9,10,Q11 with their outputs for Practical File work. Send the pdf of the same before taking printout of above Questions on my personal Whatsapp.



ECONOMICS

VIRTUE AND KNOWLEDGE

DELHI

Guidelines for Project Work in Economics (Class XII)

The objectives of the project work are to enable learners to:

- 1) probe deeper into theoretical concepts learnt in classes XI and XII
- 2) analyse and evaluate real world economic scenarios using theoretical constructs and
- 3) arguments demonstrate the learning of economic theory
- 4) follow up aspects of economics in which learners have interest
- 5) develop the communication skills to argue logically

The expectations of the project work are that:

learners will complete only ONE project in each academic session project should be of 3,500-4,000 words (excluding diagrams & graphs), preferably hand-written, it will be an independent, self-directed piece of study

Role of the teacher:

The teacher plays a critical role in developing thinking skills of the learners. A teacher should:

help each learner select the topic based on recently published extracts from the news media, government policies, RBI bulletin, NITI Aayog reports, IMF/World Bank reports etc., after detailed discussions and deliberations of the topic

play the role of a facilitator and supervisor to monitor the project work of the learner through periodic discussions

guide the research work in terms of sources for the relevant data educate learner about plagiarism and the importance of quoting the source of the

information to ensure authenticity of research work prepare the learner for the presentation of the project work

arrange a presentation of the project file

Scope of the project:

Learners may work upon the following lines as a suggested flow chart:

- Choose a title/topic
- Collection of the research material/data
- Organization of material/data
- Present material/data
- Analysing the material/data for conclusion

- Draw the relevant conclusion
- Presentation of the Project Work

Expected Checklist:

Introduction of topic/title

Identifying the causes, consequences and/or remedies

Various stakeholders and effect on each of them

Advantages and disadvantages of situations or issues identified

Short-term and long-term implications of economic strategies suggested in the course of research Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file

Presentation and writing that is succinct and coherent in project file

Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

Mode of presentation/submission of the Project:

At the end of the stipulated term, each learner will present the research work in the Project File

to the External and Internal examiner. The questions should be asked from the Research

Work/ Project File of the learner. The Internal Examiner should ensure that the study submitted by the learner is his/her own original work. In case of any doubt, authenticity should be checked and verified.

Marking Scheme :

Marks are suggested to be given as –

S. No. Heading

Marks Allotted

1.Relevance of the topic - 3

2.Knowledge Content/Research Work-6

3.Presentation Technique-3

4.Viva-voce - 8

Total = 20 Marks

Suggestive List of Projects:

Class XII

Effect on PPC due to various government policies

Invisible Hand (Adam Smith)

Opportunity Cost as an Economic Tool (taking real life situations)

Effect of Price Change on a Substitute Good (taking prices from real life visiting local market)

Effect on equilibrium Prices in Local Market (taking real life situation or recent news)

Effect of Price Change on a Complementary

Good (taking prices from real life visiting local market)

Solar Energy, a Cost Effective Comparison with Conventional Energy Sources

Bumper Production- Boon or Bane for the Farmer Any other newspaper article and its evaluation on basis of economic principles

VIRTUE AND KNOWLEDGE

DELHI

ASSIGNMENT -1

Q1. Give two characteristics of resources.

Q2. Which of the following statement is true ? (Multiple choice question)

- a. PPC shows various combinations giving same level of satisfaction.
- b. PPC shows various combinations of two goods which an economy can produce with given amount of technology and resources.
- c. PPC is typically of convex shape.
- d. An economy always operate on PPC.

Q3. State the meaning of marginal rate of transformation.

Q4. Which central problem of the economy deals with distribution of income?

Q5. An example of “positive” economic analysis would be: (Multiple Choice Question)

- a. An analysis of the relationship between the price of food and the quantity purchased.
- b. Determining how much income each person should be guaranteed.
- c. Determining the fair price for goods.
- d. Deciding how to distribute the output of the economy.

Q6. State any two problems of allocation of resources.

Q7. Which branch of economics is also referred to as “Price Theory”?

Q8. Identify the correct statement (Multiple choice Question)

- a. Typical shape of PPC is convex.
- b. ‘How to produce’ is a problem in populated nations only.
- c. Price determination is studied under micro economics.
- d. Increase in employment will shift PPC ‘rightward’.

Q9. In short run the price of the commodity at least be equal to (Multiple Choice Question)

- a. Marginal Cost b. Average Cost c. Average Variable Cost d. Average Fixed Cost

Q10. The nation has two alternatives of producing $100X + 200Y$ or $102X + 196Y$ from its given

resources. The nation chooses the second. What is the marginal opportunity cost of producing X:

(Multiple Choice Question)

- a. 4Y b. 3Y c. 2Y d. 1Y

Q11. Choice is created by

- a. Unlimited resources b. Need Urgency
c. Scarcity of resources d. All

Q12. The following is not the cause of the central problems faced by an economy

(Multiple Choice

Question)

- a. Technology Change b. Unlimited human wants
c. Scarce resources d. Alternative use of resources

Q13. What is the difference between MOC_{XY} and MOC_{YX} ?

Q14. Given the PPC for T-shirt on X axis and cell phones on Y axis: (Multiple Choice Question)

If improved technology is used for the production of T-shirts, the shape of new PPC will be:

- a. PPC rotates on X-axis b. PPC rotates on Y-axis
c. PPC will shift towards right d. None of the above

Q15. A typical PP curve is downward sloping concave because : to produce more of one good, output

of the other good must be reduced (Multiple Choice Question)

- a. At increasing rate b. At decreasing rate
c. At constant rate d. Initially at decreasing rate and then at increasing rate.

(ANSWER 16 TO 35 = 3 MARKS / 4 MARKS)

Q16. Answer the following questions with reasons in short (without diagram)

- a. what will be the effect of employment generation programmes by government on PPC
b. what will be the long term effect of goods and services tax (GST) on PPC
c. what will be the effect on PPC due to decrease in exports due to global slowdown.

Q17. Assuming that no resources is equally efficient in the production of all goods, mention the

name of the curve which shows production possibilities of the economy. Explain its properties also.

Q18. Use a production possibility frontier to describe the idea of “efficiency”

Q19. Due to Trump’s visa policy, many Indian IT professionals are returning back to India. How will the above situation affect the PPC of Indian economy? Give reasons.

Q20. Explain difference between positive and normative economy

Q21. Complete the following table. Also comment on the shape of PPC.

GOOD A	GOOD B	MOC
0	14	-
1		1
2		2
3		3
4		6

Q22. War in Syria has led to a great loss of life and property to the nation. How is the PPC of the

nation affected? Also mention one way in which the world can help the suffering nation.

Q23. Growth and Equality are conflicting goals in developing nations like India. Comment.

Q24. Explain the problem of “For Whom To Produce”?

Q25. Explain MRT in context of PPC with schedule and diagram.

Q26. How would ‘Make in India’ campaign affect PPC ?

Q27. Give assumptions of production possibility curve.

Q28. There has been a rise in Foreign Direct Investment into India in the last two years. How do you

think it will affect the transformation curve of India's economy ?

Q29. An economy produces only two goods, mobile phones and cars. The technology to produce

cars improves. How will it affect the production possibility frontier? Use diagram.

Q30. Why is a typical production possibility curve concave ?

Q31. Differentiate between:

- a. movement from a point inside the PPC to a point on the PPC.
- b. movement from one point to another point on same PPC.

Q32. Defend or refute the statement : An economy always produces on, but not inside a PPC.

Q33. Explain the central problem of :

- a. What to Produce
- b. How to produce

Q34. Differentiate between Micro and Macro economics with examples.

Q35. ' Bihar experienced one of the worst flood in 3 decades.' Using diagram explain the impact of the above situation on PPC of the state.

ASSIGNMENT -2

Q1.. From the following data about a government budget find:-

- i. Revenue deficit, ii. Fiscal and iii. Primary deficit.

(In Crore)

(i)Tax revenue.	47
(ii)Capital receipts.	34
(iii)Non-tax revenue.	10
(iv)Borrowings.	30
(v)Revenue expenditure.	80

(vi) Interest payments. 20

Q2. Why are taxes received by government not treated as capital receipts?

Q3. A government Budget shows a primary deficit of Rs.4400 crore. The revenue expenditure on interest payments is Rs.400 crore. How much is the Fiscal Deficit?

Q4. Government provides essential items of food grains almost free to the families below the poverty line. Which objective the government is trying to fulfill through the government budget and how? Explain.

Q5.. Distinguish between revenue receipts & capital receipts in Government Budget. Give two example of each.

Q6. Explain the basis of classifying government expenditure into revenue expenditure & capital

Q7. They are generally proportional in nature:

- a. Direct tax
- b. Indirect tax
- c. Both
- d. None of these

Q8. Which is tax revenue of the government?

- a. Price
- b. Gifts and grants
- c. Escheat
- d. Custom duties

Q9. Which is not an objective of government budget?

- a. Redistribution of income and wealth b. Export promotion
- c. Both
- d. None of these

Q10. If fiscal deficit is ₹ 35 crore and interest payment is ₹ 10 crore, then primary deficit is:

- a. ₹ 25 crore
- b. ₹ 45 crore
- c. ₹ 20 crore
- d. None of these

ENGLISH

VIVEKANAND PUBLIC SCHOOL



VIRTUE AND KNOWLEDGE

DELHI

Q1. Complete the project taking ideas from the guidelines given below. It has to be made on A4 sized sheets and to be enclosed in a beautiful file.

Q2. Complete the assignment given below in your English notebooks.

SUGGESTIONS FOR PROJECT WORK:

The Project can be inter-disciplinary in theme. The students must take any one of the techniques given below as a methodology of project work

a) Interview-Based Research:

Students can choose a topic and conduct interviews with a few neighbors/ friends/acquaintances etc. on the topic. For that the student will frame questions based on the preliminary research/background and then he will then write an essay/ write up / report etc. up to 1000 words on his/her research and submit it.

b) Audio/ Video based Research:

Students can listen to podcasts/ interviews/radio or TV documentary on a topic and prepare a report countering or agreeing with the speakers. Write an 800 - 1000 words report and submit

The ideas/issues highlighted in the chapters/ poems/ drama given in the prescribed books can be developed in the form of a project with the suggestive sub topic given below.

Kindly refer to Project guidelines and the Parameters of Assessment while making the project.

LIST OF TOPICS/THEMES

I) THE LAST LESSON- FREEDOM OF SPEECH AND EXPRESSION

- a) Linguistic chauvinism
- b) Importance of Language
- c) Globalization of Language
- d) Franco-Prussian War
- e) Historical References of Events wherein linguistic identity was threatened/snatched

II) LOST SPRING-LIFE IN A SLUM

- f) Research and case study of a slum.
- g) Life of the people in a slum
- h) Education
- i) Health and Infrastructure
- j) Government Initiatives
- k) Role of youth in the upliftment of the weaker sections of the society
- l) Comparative Study of Slums

m) Slums of yesterday turned to cities of today.

III) DEEP WATER- PHOBIA

- a) Phobias and fears of people.
- b) Psychological and emotional impact.
- c) How to overcome.
- d) Impact on one's life and society
- e) Case Study

IV) RATTRAP-THE STUDY OF CRIME AND CRIMINALS

- a) Circumstances that lead to crime.
- b) Case Study
- c) Corrective Measures
- d) Impact of Criminal Behaviors on Society
- e) How to bring them into mainstream.
- f) Attitude of society towards criminals.

V) INDIGO

- a) Condition of Farmers in Champaran -Then and Now
- b) Farm Bill Agitation
- c) Gandhi's Contribution
- d) Other Political Leaders who brought about a change in the lives of farmers.
- e) Farmer Protection Laws in India
- f) Condition of Farmers in India vis-a-vis world.
- g) Future Prospects-Growth-Suggestions

VI) THE ENEMY- WAR AND PEACE

- a) To maintain peace, we need to go to war.
- b) Impact of War on Society
- c) Predicament of War
- d) Escapism and Depression due to war.
- e) Stance of the Political Lobby and Civilians.

VII) SHOULD WIZARD HIT MOMMY-INSIGHT TO PARENTHOOD

- a) Evolving Parenthood
- b) Problems faced by parents
- c) Teaching moral values
- d) Generation Gap
- e) Identity Crisis
- f) Role of Joint and Nuclear Families
- g) Dilemmas of a parent.

VIII) ON THE FACE OF IT- DISABILITY

- a) Coping with disability
- b) Society's attitude towards disability

- c) Struggles of a disabled person
- d) Laws for the disabled
- e) Government policies for the betterment of the disabled.
- f) Need of inclusion of the disabled in the mainstream society.

IX) TOPICS BEYOND BOOKS

- a) The Population Control Bill is the Right Step Forward.
- b) Unrestrained Freedom of Speech and Expression is the Pillar of Progressive Society.
- c) Fulfilment of new woman in India is a Myth.
- d) Where Humanity Fails, Pandemic Occurs
- e) Peace is Both a Right and Duty.
- f) Designer Babies- a Boon or Bane
- g) Should Healthcare and Medicine be Provided Free by the Government?
- h) Childhood Vaccinations should be Compulsory.
- i) Populism is a threat to Democracy.
- j) People should not have more than two children.
- k) People are the Gender They Choose.
- l) Euthanasia-a Right to Death
- m) Is Masculinity a Problem to overcome?
- n) Juveniles should be tried and tested as adults.
- o) Objectification of women in society.
- p) There is a need to restore Net Neutrality.
- q) Legalize the Sale of Human Organs.
- r) Paperless Currency-the future of the World Economy.
- s) Sports Scenario of India - Do players or owners make a team?
- t) Should we determine the team greatness with championship?
- u) OTT platform vs. Conventional Cinema
- v) NEP 2020

PROJECT LAYOUT

SHEET 1 - Cover Page with title, school details, details of students

SHEET 2 - Statement of purpose/ Objective/ Goal

SHEET 3 - Certificate of Completion under the guidance of the teacher.

SHEET 4 - Action Plan

- a) 3-4 lines about the project.
- b) Research Tools and Methodology.
- c) Supporting Material-AV Aids/ PPT

SHEET 5 - Introduction of the Project.

SHEET 6 -

- a) Supporting Material
- b) Questionnaire
- c) Case Study
- d) Assignments
- e) Survey Report
- f) Transcripts
- g) Articles
- h) Interview

SHEET 7 - REPORT

800–1000-word essay/script/report

SHEET 8 - STUDENT/GROUP REFLECTION

100-150 words paragraph about the experience and learning outcomes

SHEET 9 - PHOTOGRAPHS

SHEET 10 - LIST RESOURCES/ BIBLIOGRAPHYY

PARAMETERS OF ASSESSMENT

- a) Quality of Content
- b) Accuracy of Information
- c) Adherence to the specified timeline.
- d) Content in respect of spellings, grammar, punctuation
- e) Clarity of thoughts and ideas
- f) Creativity
- g) Contribution by group members
- h) Knowledge and experience gained

ENGLISH ASSIGNMENT-1

Q. Choose the correct option:

Q1. What bothers the author most about the bangle makers?

- (a) the stigma of poverty and caste
- (b) the affluence of the landlords
- (c) the behavior of the factory owners
- (d) the labour laws

Q2. "One wonders if he has achieved what many have failed to achieve in their lifetime. He has a roof over his head"; these lines were said in reference to the condition of

- (a) the elderly woman's old husband
- (b) Mukesh's father
- (c) the bangle factory owner
- (d) Mukesh's elder brother

Q3. Sunny-gold, paddy green, royal blue, pink, purple, every color born out of the seven colors of the rainbow. What is this a reference to?

- (a) clothes
- (b) birds
- (c) bangles
- (d) bindis

Q4. The frail woman in Mukesh's house is his

- (a) mother
- (b) elder brother's wife
- (c) wife
- (d) niece

Q5. What did the man from Udipi pray for, when he was young?

- (a) a pair of trousers
- (b) a pair of shoes
- (c) a few friends
- (d) an opportunity to study in a school

Q6. What makes the working conditions of the children worst in the glass industry?

- (a) Dark dingy cells without light and air
- (b) Dazzling and sparking of welding light
- (c) High temperature
- (d) All of these

Q7. What was Franz banking on to enter the class as he was late?

- (a) M. Hamel's teaching on the blackboard
- (b) commotion in the class
- (c) Hauser helping him sneak in
- (d) to quietly walk in when everyone was preoccupied with participles

Q8. M. Hamel is introduced as a ruler-wielding teacher. This demonstrates that:

- (a) he is concerned.
- (b) he is adamant.
- (c) he is unfeeling.
- (d) he is a hard taskmaster.

Q9. What does M. Hamel's motionless posture reflect?

- (a) the school is dismissed
- (b) sense of finality
- (c) changing order of life
- (d) feeling of nostalgia

Q10. What is the moral that the Alphonse Daudet wants to bring out?

- (a) not to put off things that one can do that day
- (b) old order changed to new
- (c) one should accept everything that happens
- (d) teachers should be respected

Q11. Why did Hamel blame himself?

- (a) not having taught them enough French
- (b) not being strict
- (c) giving students a holiday at times
- (d) not being responsible

Q12. Why did the villagers come to meet M. Hamel in the school?

- (a) to complain
- (b) to say goodbye
- (c) to gossip
- (d) to show gratitude

Q13. The story 'The Last Lesson' highlights which human tendency?

- (a) Male Chauvinism
- (b) Procrastination
- (c) Courage
- (d) Cowardice

Q14. What question arises from the complexity of the situation in the poem?

- (a) what to do in old age
- (b) how to take care of one's skin
- (c) how to drive
- (d) How to strike a balance between duties and responsibilities

Q15. What does this narrative style of the poem signify?

- (a) differing thoughts
- (b) many thoughts
- (c) contrasting thoughts
- (d) a single thread of thought mixed with harsh realities

Q. Answer the following questions:

Q16. Poverty is not just lack of money; it is not having the capability to realize one's full potential as a human being. (Amartya Sen). Justify the statement in the light of realizing Saheb's & Mukesh's potentials in life.

Q17. War and conflict displace people from their homes/ nations. How is this relevant for Saheb & his family?

Q18. God-given lineage condemns thousands of children to a life of abject poverty and interfere in realizing their dreams. How has this been issue been portrayed in the story? Do you think Mukesh can be an exception in this regard? Justify your answer with reference to your reading of Mukesh's character traits.

Q19 Throughout the story, the reader encounters Franz' account of how school usually was, and what it was like on the last day of class with M. Hamel. In what way can the story be seen as a comment on schooling in general? Do you think the story might also provide advice on what good education entails? Substantiate your argument with relevant instances from the text.

Q20. M. Hamel distributed new copies that looked like little French flags, and ended the class with an emphatic "Vive La France!". What do you think might have caused Hamel to demonstrate a sudden surge of patriotism in him? Explain with reference to the story.

Q21. Language is the road map of a culture. It tells you where its people come from and where they are going. Justify this statement with reference how Hamel demonstrated his last lesson in the story.

Q22. You are Aman/Aditi studying in Bharat School, Lucknow. The road leading to your school is very congested and full of potholes. Students and parents are often caught in a traffic jam. In spite of several representations, the government has not done anything to improve the condition of the road. Write a letter to the Editor of The Times of India, drawing the attention of the government to this problem.

Q23. Water supply will be suspended for eight hours (10 am to 6 pm) on 6th of March for cleaning of the water tank. Write a notice in about 50 words advising the residents to store water for a day. You are Karan Kumar/Karuna Bajaj, Secretary, Janata Group Housing Society, Palam Vihar, Kurnool.

Q24. You are Sahil Kapoor, the President of the School Book Club. The club is organizing a drive for promoting reuse of study materials and books. Draft a notice in about 50 words, for the school notice board, addressing students of classes X- XII, informing them about this drive and urging them to contribute to the endeavor. Mention how the donated books would benefit a charitable cause.

Q25. You are Shubha/ Krishna, residing in Subhadra Apartments, Orissa. You have observed, with increasing concern, that garbage collection continues to be done without segregation in your neighborhood. Write a letter to the Editor of "The Real Times", Bhuvneshwar, in about 120-150 words, explaining your concern along with the rationale behind the importance of garbage segregation. Suggest the ways in which the R.W.A can participate in this program.

**VIRTUE AND KNOWLEDGE
DELHI**

ASSIGNMENT -2

Q1. Read the passage given below.

1. A youngster quit Facebook in December after spending over three years on the social networking site. With that one act, he bid a silent adieu to more than 300 contacts that he had added to his account during the period. Like almost everyone from his friend's circle the 20-year-old was a regular on the service; visiting it every day to post photos and status updates but last week a new feature on Facebook called Timeline forced him to reconsider the pros and cons of being on the networking site.
2. Everyone has some skeletons in their closet and I am just not comfortable with Facebook digging up and displaying all the facets of my life on a bulletin board,' says this youngster who joined the network in July 2007, while he was in class 11th.
3. Facebook, you see, had compressed the time he spent on the site and arranged it in chronological order. While he initially liked the new neatly organised scrapbook-like feature he wasn't happy to reveal posts from the past that until recently were hidden under layers and layers of recent updates. Just clicking on a date on the timeline could transport his friends back in time and enable them to view every embarrassing comment link or photo he had posted on his profile.
4. "I think it's a recipe for disaster," he says. "In 2007, I had some wall posts which seemed appropriate at the time but now after a lapse of four years, I have moved on and don't want them to be openly displayed for all to see."
5. He is not alone. Many users, worried about how the Facebook activity could possibly affect their offline lives, are choosing to commit "Facebook suicide." While some have privacy concerns, others feel that the site meant to bring them closer to their friends actually does the opposite- it reduces their friendship to something superficial.
6. Poking and liking are not enough to keep a friendship going,' says a business analyst. Having quit Facebook three years ago, she prefers meeting her 'real' friends face-to-face, instead of reading their trite posts online. "On Facebook, people hype everyday issues including what they ate and where they went on a daily basis," says this analyst who continues to use Twitter.
7. "Facebook has become a time sink and it could not justify the time I spent on it." he says, "I spend more time calling up friends or relatives over the phone now..... I also go out and meet people whenever possible and have a good offline life. I do not regret the change." Today, Facebook has 800 million users of which 37 million are Indians. The site has become an online identity for most, and many of those who decided to quit cannot overcome the withdrawal symptoms and return. Facebook, fully aware of its addictive powers, facilitates this return by allowing users to 'deactivate' their accounts but continues to store information on its servers so that they can return from their 'break', whenever they wish.

On the based on your understanding of the passage, answer the questions given below

(i) Why does the writer say Facebook is a recipe for disaster?

- a. It displays the deleted matter.
- b. It makes every post public.
- c. It displays the past that was relevant then but not now.
- d. They use the data for further advertisement.

(ii) Select the option that corresponds to the following relation below.

Poking and liking are not enough to keep a friendship going.

- a. Singing and dancing are some fun activities to engage in.

- b. Taking supplements and a balanced diet is not enough for healthy living.
- c. Doing projects and assignments will make you a better student.
- d. Hard work and luck are recipes to success.

(iii) Select the option that depicts what the writer projects, with reference to the following. "Everyone has some skeletons in their closet and I am just not comfortable with Facebook digging up and displaying all the facets of my life on a bulletin board."

- a. Danger
- b. Disdainful
- c. Caution
- d. Exhilaration

(iv) Which of the following statement is not true?

- a) Facebook has compressed time
- b) It is not easy to resist Facebook
- c) It seems to justify our time using Facebook and making new friends.
- d) People hype their everyday issues.

(v) Based on your reading of the text, list any two disadvantages or implications of the social media site Facebook

1. _____
2. _____

(vi) The author says, "The site has become an online identity for most, and many of those who decided to quit cannot overcome the withdrawal symptoms and return." What according to the author, is an advantage as well as a disadvantage in Facebook?

- a. Its updates are in chronological order.
- b. Hype is created on Facebook.
- c. It facilitates the return of users.
- d. All of these

(vii) Why did the youngster change his mind later regarding staying on Facebook?

(viii) Evaluate the APPROPRIATE characteristic that can be apt for the lives of people who had quit Facebook.

- a. Social and Real
- b. Sad and Hysterical
- c. Nostalgic and Fear of missing out
- d. All of these

Q2. Read the passage given below.

1. Tourism, for millennia, has been a perpetual industry. Though initially unorganised and highly chaotic, it retained a place in each nook of history. The present tourism scenario in India is on the rise, with destinations grabbing eyeballs globally and domestically. Being the youngest nation in the world, it's no wonder that the aggregate of 'millennials' spends more time and money on travel than previous generations. This could be huge for the economy of various states that rely majorly on tourism, if only it were sustainable.

2. Unsustainability prevails throughout the country, in states with higher domestic tourist inflow than foreign. The Dev Bhoomi is a prime example. No matter how popular, Uttarakhand tourism is loop-holed through and through.
3. Approx. 80% of tourists arrive to complete the infrastructure of the Dham Yatra. Such unchecked tourism puts immense pressure on natural and infrastructure facilities. The extreme shortage of accommodation in correspondence with thriving footfalls has led to the construction of illegal buildings, the majority of which exist on riverbanks. With an increasing number of tourists coming in through private vehicles to save "transportation money", pollution levels are rising, increasing temperatures in return. With unlawful construction and pollution on riverbanks, the Ganges could cause direct harm to local species in Rishikesh and Haridwar.
4. Around 10,000 hilly areas are being convened for the construction of roads alone. We know roads are basic infrastructure but the Forest Conservation Act requires a project developer to plant trees in a non-forest/degraded forest area equal to or twice the trees, it's clearing respectively, to compensate which does not happen.
5. The India State of Forest Report illustrates how Uttarakhand is losing its forest cover has indirect development through tourism, at its core. The government and private tour operators may think they can deny allegations but the charts speak for themselves.
6. We, as consumers of the tourism industry, hold the power to cause a massive stir in this context. According to research conducted, Uttarakhand's mass tourism comprises people between 25-35 years of age, with higher education, out with either family or friends and enough average income to contribute to the local economy.
7. Regardless of what the figures say, if we look forward to sustainable tourism being the target market, it leaves little choice to the rest of the hierarchy. Consciously making effort to be responsible tourists and thinking of how to provide for the local community/environment in a way - tiny or big, could act as a catalyst in obliterating this ruckus due to ignorance. After all, there can only ever be seven deadly sins and wanderlust isn't one of them.

Based on your understanding, answer the following questions.

(i) The given passage tries to highlight that:

- a) tourism is unsustainable
- b) the natural landscape of Uttarakhand must be preserved
- c) tourism is the main source of income for various states.
- d) all of the above

(ii) Select the appropriate option to fill in the blank.

From paragraph 1 we can infer that _____ is the main cause for putting pressure on infrastructural and natural resources.

- 1. unchecked tourism
- 2. illegal construction
- 3. pollution
- 4. increasing temperatures

Codes

- a. 1, 2 and 3
- b. 2 and 3
- c. Only 1
- d. 2 and 4

(iii) Complete the following analogy correctly with a word/phrase from paragraph 6.

Movie: Viewers :: Product: _____

(iv) Select the correct option to complete the following sentence.

The Forest Conservation Act vouches for _____

- a. the preservation of local species of flora and fauna
- b. plantation of trees in a non-forest/degraded forest area equal to or twice the trees it's clearing
- c. construction only in the non-forest or degraded forest area
- d. All of the above

(v) Which places of Uttarakhand see maximum damage?

- a. Rishikesh and Haridwar
- b. Dehradun and Manali
- c. Mussoorie and Nainital
- d. Char dham

(vi) Fill in the blank by selecting the correct option.

The unchecked tourism in Uttarakhand over the last few years has showed _____ effects on the environment and infrastructure of the place.

- a. positive
- b. beneficial
- c. encouraging
- d. detrimental

(vii) Unsustainability in tourism can be blamed on

- a. government apathy
- b. domestic tourists
- c. foreign footfall
- d. illegal constructions

(viii) List any two reasons to explain why unsustainability prevails in the Dev Bhoomi.

1. _____
2. _____

(ix) What do the tourist statistics show in the region of Uttarakhand?

(x) Based on your understanding of the passage, choose the option that lists the result of the pressures of a large number of tourists.

- a. Illegal infrastructural constructions, Rise in pollution
- b. Higher education, Deforestation
- c. Higher education, Rise in pollution
- d. Higher education, Increase in local economy

Q3. You are Aman/Aditi studying in Bharat School, Lucknow. The road leading to your school is very congested and full of potholes. Students and parents are often caught in a traffic jam. In spite of several representations, the government has not done anything to improve the condition of the road. Write a letter to the Editor of The Times of India, drawing the attention of the government to this problem.

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HISTORY

VIRTUE AND KNOWLEDGE

DELHI

OBJECTIVES: - Project work will help students:-

- To develop skills to gather data from a variety of sources investigate diverse viewpoints and arrive at logical deductions.
- To develop skills to comprehend, analyze, interpret, evaluate historical evidence and also understand the limitations of historical evidence.
- To develop 21st century managerial skills of co- ordination, self-direction and time management.

While crafting your project, you must follow this specified format:

1. **Cover Page:** Topic and Pic related to it
2. **1 page** - Student information, Name , class ,Roll no - (Board no) School name and year.
3. **Index** (List of Contents)
4. **Acknowledgement.**
5. **Rationale-** . Clearly state the purpose of the report and explain why it is necessary. .
6. **Introduction.**
7. **Topic** with a Unique Title/Heading.
8. List of activities and planning done to gather information about the project (If any)
9. **Conclusion**
10. **Bibliography**

Paste pic on the left hand page only.

Good historical projects are based on primary sources.

The most common primary sources are written documents. They can also include photographs, paints, sculpture, architecture, oral interviews, statistical tables, bar graphs, anecdotes and even geography.

- it should have 20 to 25 pages.
- It should be handwritten.

ASSESSMENT

ALLOCATION OF MARKS (20)

Project synopsis. (2)

Data/Statistical analysis/Map work (3) Visual/overall presentation (5) Analysis/explanation and interpretation (5) Bibliography. (1)

Viva. (4)

TOTAL. 20 MARKS

ASSIGNMENT -1

1. Why do you think walls were built around ancient city? What kinds of resources were mobilized to build such a wall?
2. Do you think that the introduction of iron ploughs have transformed agriculture?
3. Discuss the evidence for crop production in early historic cities. In which way was it different from the evidence from Harappan cities?
4. Why is it difficult to find out what ordinary people thought about their rulers?
5. What are the differences and similarities in crafts of rural and urban areas between the Mauryan age to Gupta age?
6. What functions were played by major towns of period 600 BC – 1400 AD.?
7. Explain about Pataliputra? What do you know about the civic admn of the city?
8. Explain the main occupations of the people in the post Mauryan period.
9. . What were the gifts brought by chiefs of the kingdoms of Deccan and South before 6th BC?
10. Evaluate the historical importance of
 - (a) Kautilya's arthashastra
 - (b) Indus
 - (c) Allahabad pillar inscription.
11. Why was Ashoka considered as one of the greatest rulers of India as well as of the world?
12. Describe the economic measures adopted by Mauryan rulers?
13. The period from 200 BC to 300 AD was the most flourishing period in the history of crafts and commerce in ancient India. Explain.
14. How did Indians use silver and gold currency that came to India from Rome?
15. Read the passage and answer the question :-
What the king's officials did?

Here is an excerpt from the account of Megasthenes: Of the great officers of state, some ... superintend the rivers, measure the land, as is done in Egypt, and inspect the sluices by which water is let out from the main canals into their branches, so that everyone may have an equal supply of it. The same persons have charge also of the huntsmen, and are entrusted with the power of rewarding or punishing them according to their deserts. They collect taxes, and superintend the occupations connected with the land; as those of woodcutters, carpenters, blacksmiths, and miners.

Questions:

Q.1- Explain the duties of the officers of the state.

Q2. Explain the role of the sub-committees in coordinating military activities

Q3. What did Ashoka do to hold his empire ?

16. Read the passage and answer the question:-

Draupadi's Marriage

Drupada the king of Panchal organized a competition where the challenge was to string a bow and hit a target: the winner would be chosen to marry his daughter Draupadi. Arjuna was victorious and was garlanded by Draupadi. The Pandavas returned with her to their mother Kunti, who, even before she saw them asked them to share whatever they had got. She realized her mistake when she saw Draupadi, but her command could not be violated. After much deliberation, Yudhishthira decided that Draupadi would be their common wife. When Drupada was told about this, he protested.

However, the seer Vyasa arrived and told him that the Pandavas were in reality incarnations of Indra, whose wife had been reborn as Draupadi and they were thus destined for each other. Vyasa added that in another instance a young woman had prayed to Shiva for a husband, and in her enthusiasm, had prayed five times instead of once. This woman was known reborn as Draupadi and Shiva had fulfilled her desire. Convinced by these stories, Drupada consented to the marriage.

Questions:

(Q1) What was the competition organized by the Panchala king Drupada for the marriage of his daughter?

(Q2) What two explanations were given by Vyasa to convince king Drupada for Draupadi being the common wife of the Pandavas?

(Q3) What form of the marriage was Draupadi's marriage to the Pandavas? Give two views of historians about the form of marriage.

VIRTUE AND KNOWLEDGE

DELHI

ASSIGNMENT -2

Chapter 2- Kings, farmers and towns

Answer the following questions in your classwork copy.

1. Examine the system of Mauryan administration.
2. What is the significance of the inscriptions of Ashoka in the Indian history?
3. Describe the features of trade in the Indian subcontinent from 6th century BCE.
4. Write a short note on Sudarshana Lake in Gujrat.
5. Why did 20th century nationalist leaders consider Ashoka as a source of inspiration?
6. What strategies were used to increase agriculture production from six century BCE to 6 century CE?

Chapter- 3. Kinship, caste, and class – early societies.

1. Define the following terms:-

Polygamy, polyandry, Patriliney, Matriliney. Gotra, Manusmriti , Endogamy, Exogamy , Metronymics,

2. Which is the most challenging episode of Mahabharat and why?
3. Explain how the historians usually classify the content of the present text of Mahabharat.
4. Explain the findings of archaeologist, BB Lal on excavation at the village named Hastinapur in Meerut district of UP.
5. Describe the contribution of VS Sukthankar in reconstructing social history through the critical addition of the Mahabharat

* Do the **assignments** in your history register.

* Do **map work** in the political map of India. Submission date 5 July 2023.

[CLICK HERE FOR CONTENTS](#)



MATHEMATICS

VIRTUE AND KNOWLEDGE

DELHI

Part A :

Do the five lab manual activities in activity file. Pdf of lab manual will be shared in class group.

ASSIGNMENT -1

Q.NO.1. If $\begin{bmatrix} 2 & 0 \\ 5 & 4 \end{bmatrix} = P + Q$, where P is symmetric and Q is skew symmetric matrix, then Q is equal to

- a) $\begin{bmatrix} 2 & 5/2 \\ 5/2 & 4 \end{bmatrix}$ b) $\begin{bmatrix} 0 & -5/2 \\ 5/2 & 0 \end{bmatrix}$ c) $\begin{bmatrix} 0 & 5/2 \\ -5/2 & 0 \end{bmatrix}$ d) $\begin{bmatrix} 2 & -5/2 \\ 5/2 & 4 \end{bmatrix}$

Q.NO.2. If A and B are square matrices of order 3X3, such that $|A| = 5$ and $|B| = 3$, then $|3AB|$ is equal to

- a) 135 b) 45 c) 405 d) None of these

Q.No.3. The matrix $\begin{bmatrix} 5 & 10 & 3 \\ -2 & -4 & 6 \\ -1 & -2 & b \end{bmatrix}$ is singular matrix, if the value of b is

- a) -3 b) 3 c) 0 d) Any real number.

Q.No.4 If $A = \begin{bmatrix} 1 & a \\ 0 & 1 \end{bmatrix}$, then A^n (where $n \in N$) equals

- a) $\begin{bmatrix} 1 & na \\ 0 & 1 \end{bmatrix}$ b) $\begin{bmatrix} 1 & n^2a \\ 0 & 1 \end{bmatrix}$ c) $\begin{bmatrix} 1 & na \\ 0 & 0 \end{bmatrix}$ d) $\begin{bmatrix} n & na \\ 0 & n \end{bmatrix}$

Q.No.5 If A and B are matrices of same order, then $(AB' - BA')$ is a

- a) skew-symmetric b) null matrix
c) symmetric matrices d) unit matrix.

Q.No.7 If $A = [a_{ij}]$ is a square matrix of even order such that $a_{ij} = i^3 - j^3$. then

- (a) A is a skew-symmetric matrix and $|A| = 0$
(b) A is symmetric matrix and $|A|$ is a square
(c) A is symmetric matrix and $|A| = 0$
d) None of these.

Q.no.8 the matrix AB is a null matrix then

- (a) It is not necessary that either $A = 0$ or, $B = 0$ (c) $A = 0$ and $B = 0$

(b) $A = O$ or $B = O$

(d) all the above statements are wrong

Q.no.9 If A and B are two matrices such that $AB = B$ and $BA = A$ then $A^2 + B^2$ is equal to

(a) $2AB$ (b) $2BA$ (c) $A + B$ (d) AB

Q.No.10 If A and B are two matrices such that $A + B$ and AB are both defined, then

(a) A and B are not necessarily of the same order.

(b) A and B are square matrices of the same order.

(c) Number of columns of A = Number of rows of B

(d) None of these.

Q.NO.11 Let $|A| = 6$ and B be a matrix given by $B = 5A^2$, then B

(a) 750 (b) 180 (c) 450 (d) 4500

Q.No.12 If A is a square matrix of order 3×3 such that $|A| = -3$ then $|-3AA^T|$.

(a) 243 (b) -243 (c) -234 (d) 234

Q.No.13 If A is any $m \times n$ matrix and B is a matrix such that AB and BA are both defined, then B is a matrix of order

(a) $n \times n$ (b) $m \times m$ (c) $m \times n$ (d) None of these

For Q.No. 14 to 16. Mark the below option.

a) Both A and R are individually true and R is the correct explanation of A .

b) Both A and R are individually true and R is not the correct explanation of A .

c) A is true but R is false

d) A is false but R is true.

Q.No.14 Assertion [A]: If $A = \begin{bmatrix} 2 & 3 & 1 \\ 3 & -1 & 5 \\ 1 & 5 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} -2 & 0 & 1 \\ 2 & 3 & 4 \\ 1 & 5 & 6 \end{bmatrix}$ $B^T A B$ is a symmetric matrix.

Reason [R] : The matrix $B^T A B$ symmetric matrix, A is symmetric.

Q.No.15. Assertion [A]: For two matrices $A = \begin{bmatrix} 4 & 1 \\ 3 & 2 \end{bmatrix}$ and $A(\text{adj}A) = \begin{bmatrix} 5 & 0 \\ 0 & 5 \end{bmatrix}$

Reason [R] : For a square matrix A , $A(\text{adj}A) = (\text{adj}A)A = |A| I$.

Q.No.16. Assertion : If A and B are two non-singular matrices of the same order, then $\text{adj}(AB) = (\text{adj} B) (\text{adj} A)$

Reason : (R): $A (\text{adj } A) = [A] I$.

Q.No.17. Let $A = \begin{bmatrix} 1 & -1 & 1 \\ 2 & 1 & -3 \\ 1 & 1 & 1 \end{bmatrix}$ and $10B = \begin{bmatrix} 4 & 2 & 2 \\ -5 & 0 & a \\ 1 & -2 & 3 \end{bmatrix}$, If B is inverse of matrix A, then find the value of a .

Q.No.18 If the system of equations, $x+2y-3z=1$, $(k+3)z=3$ and $(2k+1)x+z=0$ is inconsistent (No solution/parallel lines), then find the value of k .

Q. No.19. Find the matrix X for which $\begin{bmatrix} 5 & 4 \\ 1 & 1 \end{bmatrix} X = \begin{bmatrix} 1 & -2 \\ 1 & 3 \end{bmatrix}$.

Q.No.20. If $A = \begin{bmatrix} 0 & 1 & 3 \\ 1 & 2 & x \\ 2 & 3 & 1 \end{bmatrix}$ and $A^{-1} = \begin{bmatrix} 1/2 & -4 & 5/2 \\ -1/2 & 3 & -3/2 \\ 1/2 & y & 1/2 \end{bmatrix}$, find the value of x and y .

Q.No.21. If A is a symmetric matrix and B is skew symmetric matrix such that $A + B = \begin{bmatrix} 2 & 3 \\ 5 & -1 \end{bmatrix}$, then find $|AB|$.

Q.No.22. Determine the product $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix} \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and use it to solve the system of equations $x-y+z=4$, $x-2y-2z=9$, $2x+y+3z=1$.

Q.No.23 If $A = \begin{bmatrix} 1 & 2 & 0 \\ -2 & -1 & -2 \\ 0 & -1 & 1 \end{bmatrix}$, find A^{-1} . Using A^{-1} , solve the system of linear equations. $x - 2y = 10$, $2x - y - z = 8$, $-2y + z = 7$.

Q. No.24. Amit, Biraj and Chirag were given the task of creating a square matrix of order 2. Below are the matrices created by them. A, B, C are the matrices created by Amit, Biraj and Chirag respectively

$$A = \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}, B = \begin{bmatrix} 4 & 0 \\ 1 & 5 \end{bmatrix}, C = \begin{bmatrix} 2 & 0 \\ 1 & -2 \end{bmatrix}$$

(i) Find the sum of the matrices A, B and C.

(ii) Find $(C^T)^T$.

(iii) Find $(-2A)^T$

Or

(iii) Find $AC - BC$. [1+1+2]

Q.No.25. In coaching institutes, the students not only get academic guidance but also they get to know about career options and right goals as per their interest and academic record.



A coaching institute conduct classes in two sections A and B and fees for rich and poor children are different. In section A, there are 20 poor and 5 rich children and total monthly collection is Rs 9,000, where as in section B, there are 5 poor and 25 rich children and total monthly collection is Rs 25,000.

Based on above information answer the following questions.

- If Rs x and Rs y be the fees for rich and poor children respectively then the information provided in problem in system of linear equation express.
- Express the system of linear equations obtained in (a) as matrix equation.
- Find the fees for rich and poor children.

ASSIGNMENT -2

Q.No.1. Let $A = \begin{bmatrix} 1 & -1 & 1 \\ 2 & 1 & -3 \\ 1 & 1 & 1 \end{bmatrix}$ and $10B = \begin{bmatrix} 4 & 2 & 2 \\ -5 & 0 & a \\ 1 & -2 & 3 \end{bmatrix}$, If B is inverse of matrix A, then find the value of a .

Q.No.2 If the system of equations, $x+2y-3z=1$, $(k+3)z=3$ and $(2k+1)x+z=0$ is inconsistent (No solution/parallel lines), then find the value of k .

Q. No.3 Find the matrix X for which $\begin{bmatrix} 5 & 4 \\ 1 & 1 \end{bmatrix} X = \begin{bmatrix} 1 & -2 \\ 1 & 3 \end{bmatrix}$.

Q.No.4. If $A = \begin{bmatrix} 0 & 1 & 3 \\ 1 & 2 & x \\ 2 & 3 & 1 \end{bmatrix}$ and $A^{-1} = \begin{bmatrix} 1/2 & -4 & 5/2 \\ -1/2 & 3 & -3/2 \\ 1/2 & y & 1/2 \end{bmatrix}$, find the value of x and y .

Q.No.5. If A is a symmetric matrix and B is skew symmetric matrix such that $A + B = \begin{bmatrix} 2 & 3 \\ 5 & -1 \end{bmatrix}$, then find $|AB|$.

Q.No.6. Determine the product $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix} \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and use it to solve the system of equations $x-y+z = 4$, $x-2y-2z = 9$, $2x+y+3z = 1$.

Q.No.7 If $A = \begin{bmatrix} 1 & 2 & 0 \\ -2 & -1 & -2 \\ 0 & -1 & 1 \end{bmatrix}$, find A^{-1} . Using A^{-1} , solve the system of linear equations. $x - 2y = 10$, $2x - y - z = 8$, $-2y + z = 7$.

Q.No.8 Find the matrix A satisfying the equation:-

$$\begin{bmatrix} 2 & 1 \\ 3 & 2 \end{bmatrix} A \begin{bmatrix} -3 & 2 \\ 5 & -3 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}.$$

Q. No.9. Amit, Biraj and Chirag were given the task of creating a square matrix of order 2. Below are the matrices created by them. A, B, C are the matrices created by Amit, Biraj and Chirag respectively

$$A = \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}, B = \begin{bmatrix} 4 & 0 \\ 1 & 5 \end{bmatrix}, C = \begin{bmatrix} 2 & 0 \\ 1 & -2 \end{bmatrix}$$

(i) Find the sum of the matrices A, B and C.

(ii) Find $(C^T)^T$.

(iii) Find $(-2A)^T$ Or

(iii) Find $AC - BC$. [1+1+2]

PHYSICAL EDUCATION

VIRTUE AND KNOWLEDGE

DELHI

Project Work

Class XII

1. Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT)*

2. Proficiency in Games and Sports

(Skill of any one IOA recognized Sport/Game of Choice) **

3. Yogic Practices

4. Record File ***

*****Record File shall include:**

Practical-1: Fitness tests administration. (SAI Khelo India Test)

Practical-2: Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.

Practical-3: Any one IOA recognized Sport/Game of choice. Labelled diagram of Field &

ASSIGNMENT -1

Objective Type/Multiple Choice Questions

Give one-word answers.

1. In which year, the first Asian Games were organised in India?
2. After how many years, the Asian Games are organised?
3. Jesse Owens Trophy is related to which sports?
4. In which year, the first National Basketball Championships was held
5. Thomas cup is related to which game?
6. Name the historical cricket test series which is played between England and Australia?
7. Aga Khan Cup is related to which game?
8. FIFA Cup is related to which game?
9. In which year, the IPL related to cricket was started?
10. Wimbledon Cup is related to which game?
11. In which year 'Khelo India' programme was launched?

Fill in the blanks.

1. The aim of physical education is harmonious..... of an individual.
2. Coaching career is acareer is the field of physical education.
3. Nowadays, people have become more.....conscious.
- 4..... opportunities are widely available in book writing in the field of physical education and sports.
5. The World Cup of Hockey for men and women was started in..... and 1974, respectively.
- 6.....programme has been introduced to revive the sports culture in India.

State True or False.

1. aim of physical education is harmonious development of an individual
2. Khelo India programme was launched during 2017-2018.
3. Physical fitness of school-going children is not measured under the scheme of Khelo Ind (True/False)
4. Khelo India programme is not helpful for promoting rural games. (True/False)

Choose the correct answer.

1. Competitions are helpful for the development of
(a) Social qualities (c) Sports skills
(b) Selection of players (d) All the above
2. Uber Cup is related to:
(a) Table Tennis (c) Badminton

(b) Lawn Tennis

(d) None of these

3. Which one of the following components is not included in Khelo India Programme?

(a) Playfield development

(b) Talent search and development

(c) Sports for women

(d) To organise Cricket Competitions

4. Which one of the following objectives is not the objective of physical education ment by H Clarke?

(a) Physical fitness (c) Social efficiency

ASSIGNMENT -2

Short Answer Questions-I

1. Enlist the objectives of physical education and explain any one of them.
2. Discuss about teaching careers in physical education in brief.
3. Enumerate the objectives of physical education in brief.
4. Briefly discuss about any three International Competitions of athletics.
5. Discuss the three national competitions of cricket in brief.
6. Write down any nine tournaments of football.
7. Write down a brief note on 'Khelo India' Programme.

Short Answer Questions

1. Define physical education and explain its aim and objectives in detail.
2. What are the various career options in physical education? Discuss the teaching career in detail.
3. Elucidate the coaching career in detail.
4. Discuss the health-related and administration-related careers in detail.
5. Explain in detail the sports media related careers in the field of physical education.
6. Write short notes on any two of the following:
 - (a) Career in book writing.
 - (b) Career in sports photography.
 - (c) Career in sports industry.
7. Elaborate the 'Khelo India' Programme in detail.



PHYSICS

VIRVUE AND KNOWLEDGE

DELHI

(1) Prepare project report as per the guidelines

Your project should have the following elements:

- **Synopsis** - This is a summary of your idea and should include the purpose of the experiment, procedure used, data, and conclusion
- **Research paper** - A research paper should be prepared and must be available along with the project data book with relevant written material. A research paper helps organize data as well as thoughts. A good paper includes the following sections:
 - **Title page** - Centre the project title, and put your name, address, and school
 - **Aim / Objective** - The introduction sets the stage for your report. The aim includes your hypothesis, an explanation of what prompted your research and what you hoped to achieve.
 - **Scientific Principle Involved** - In this section describe the principal involved.
 - **Material Used** - List all the items used here this will help you in working out the final cost.
 - **Method** - This section describes how you did the study. Describe in detail the methodology used to collect your data or make your observations. Your report should be detailed enough for someone to be able to repeat the experiment. Include photographs or drawings of self-designed equipment. The research work conducted by you may have taken more than a year. In such case, include this year's work only.
 - **Discussion** - This is the essence of your paper. The results and conclusions should flow smoothly and logically from your data. Be thorough. This should let the reader know exactly what you did, compare your results with theoretical values, published data and expected results. Include a section of possible errors. How did the data vary between repeated observations of a similar event? How were your results affected by uncontrolled events? What would you do differently if you were to repeat this project? What other experiments should be conducted?
 - **Conclusion** - This section describes the findings and conclusion of the project. Briefly summarize your results. Be specific, do not generalize. Never introduce anything in the conclusion that has not been discussed.
 - **Further scope of project** - This is a step further; here you describe the future scope of your experiment.
 - **Acknowledgement** - You should always give credit to those who assisted you; they may be individuals, educational or research institutions
 - **Reference list** - Your reference list should include any documentation that is not your own (i.e. books, journal articles, include specific internet url's).

For help you can click on the following link

<https://www.slideshare.net/slideshow/cbse-class-xii-physics-investigatory-project/72684792>

Suggested Investigatory Projects

1. To study various factors on which the internal resistance/EMF of a cell depends.
2. To study the variations in current flowing in a circuit containing an LDR because of a variation in
 - (a) the power of the incandescent lamp, used to 'illuminate' the LDR (keeping all the lamps at a fixed)
 - (b) the distance of a incandescent lamp (of fixed power) used to 'illuminate' the LDR.
3. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an

adjustable object needle.

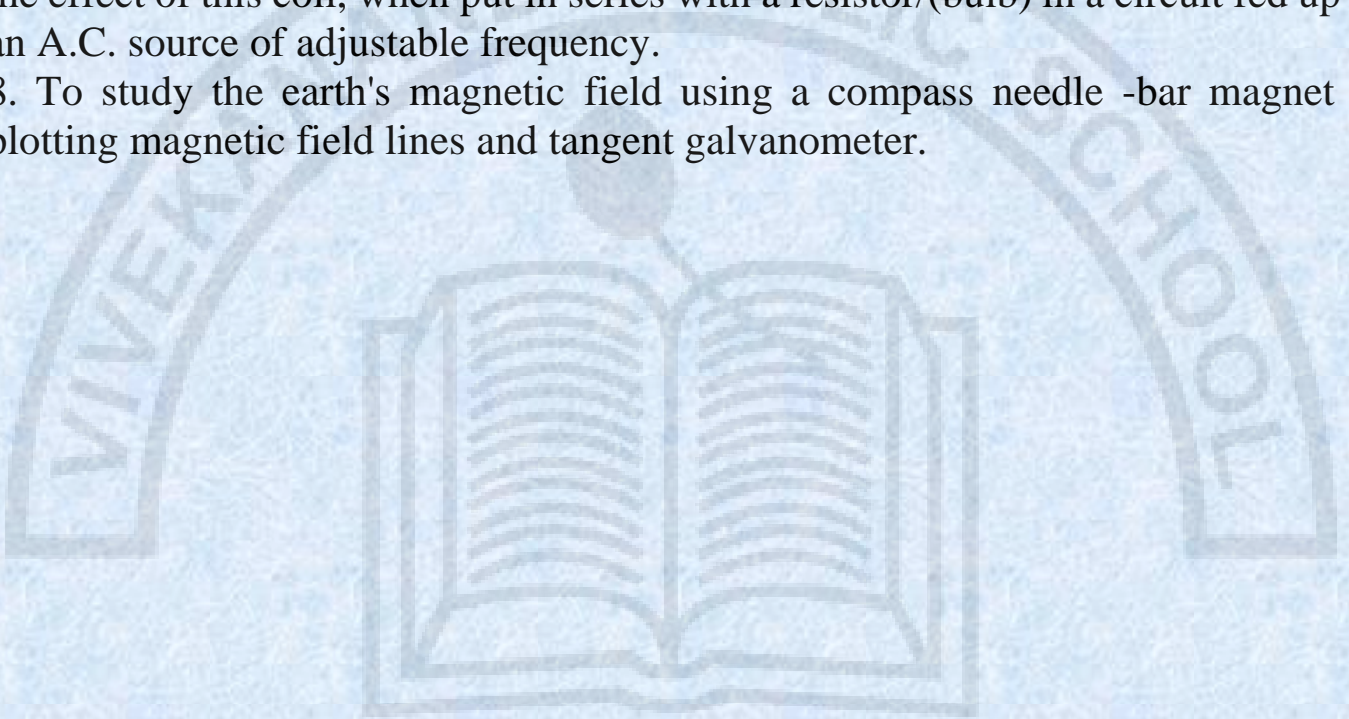
4. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self-designed transformer.

5. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one, with different transparent fluids.

6. To estimate the charge induced on each one of the two identical Styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law.

7. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency.

8. To study the earth's magnetic field using a compass needle -bar magnet by plotting magnetic field lines and tangent galvanometer.



ASSIGNMENT -1

- Q.1 Does the Force Between Two Point Charges Change if the Dielectric Constant of the Medium in Which they are Kept is Increased?
- Q.2 A Charged Rod P Attracts a Rod R Whereas P Repels another Charged Rod Q. What Type of Force is Developed Between Q and R ?
- Q.3 A Free Proton and a Free Electron are Placed in a Uniform Field. Which of the Two Experiences Greater Force and Greater Acceleration?
- Q.4 No Two Electric Lines of Force Can Intersect Each Other. Why?
- Q.5 An Electric Dipole When Held at 30° with Respect to a Uniform Electric Field of 10^4 N/C Experiences a Torque of $9 \times 10^{-26} \text{ Nm}$. Calculate Dipole Moment of the Dipole?
- Q.6 Explain the Meaning of the Statement 'Electric Charge of a Body is Quantized'.
- Q.7 Why Can One Ignore the Quantization of Electric Charge When Dealing With Macroscopic I.e., Large Scale Charge?
- Q.8 An Electric Field Line is a Continuous Curve. That is, a Field Line Cannot Have Sudden Breaks. Why Not?
- Q.9 Explain Why Two Field Lines Never Cross Each Other at Any Point?
- Q.10 What is the Net Flux of the Uniform Electric Field of Exercise 1.15 through a Cube of Side 20cm Oriented So That Its Faces Are Parallel to the Coordinate Planes?
- Q.11 A Particle of Mass m and Charge q is Released from Rest in a Uniform Electric Field of Intensity E . Calculate the Kinetic Energy Attained by this Particle after Moving a Distance Between the Plates.
- Q.12 What is the Force Between Two Small Charged Spheres Having Charges of $2 \times 10^{-7} \text{ C}$ and $3 \times 10^{-7} \text{ C}$ placed 30cm Apart in Air?
- Q.13 A Point Charge of $2.0 \mu\text{C}$ is Kept at the Center of a Cubic Gaussian Surface of Edge Length 9cm. What is the Net Electric Flux through the Surface?
- Q.14 An Infinite Line Charge Produces a Field of Magnitude $9 \times 10^4 \text{ N/C}$ at a Distance of 2cm. Calculate the Linear Charge Density.
- Q.15 What Is an Equi-Potential Surface? Show That the Electric Field Is Always Directed Perpendicular to an Equi-Potential Surface.
- Q.16 Why does the electric field inside a dielectric decrease when it is placed in an external electric field?
- Q.17. What is the work done in moving a $2 \mu\text{C}$ point charge from corner A to corner B of a square ABCD when a $10 \mu\text{C}$ charge exists at the centre of the square? Q.18 The distance of the field point on the equatorial plane of a small electric dipole is halved. By what factors will the electric field due to the dipole

changes? Q.19 The Plates of a charged capacitor are connected by a voltmeter. If the plates of the capacitor are moved further apart, what will be the effect on the reading of the voltmeter?

Q.20 State Gauss's Theorem in electrostatics?

Q.21. Three capacitors each of capacitance $9\mu\text{F}$ are connected in series (a) What is the total capacitance of the combination? (b) Determine the charge on each capacitor if the combination is connected to a 100V supply.

Q.22 A $12\mu\text{F}$ capacitor is connected to a 50V battery. How much electrostatic energy is stored in the capacitor?

Q.23 Show mathematically that the potential at a point on the equatorial line of an electric dipole is Zero?

Q.24 What is the direction of the electric field at every point on this surface?

ASSIGNMENT -2

Q. NO.	QUESTION
1	Two copper spheres of the same radius, one solid and the other hollow, are charged to the same potential. Which will have more charge? (a) Solid sphere (b) Hollow sphere (c) Both will have an equal charge (d) None of these
2	The capacitance of a capacitor will decrease if we introduce a slab of: (a) copper (b) aluminium (c) zinc (d) None of these
3	Two capacitors of capacitance $6\mu\text{F}$ and $4\mu\text{F}$ are put in series across a 120V battery. What is the potential difference across the $4\mu\text{F}$ capacitor ? (a) 72V (b) 60V (c) 48V (d) zero
4	In which of the following forms is the energy stored in a capacitor? (a) Charge (b) Potential (c) Capacitance (d) Electric field
5	Two conducting spheres of radii r_1 and r_2 are equally charged. The ratio of their potential is (a) $(r_1/r_2)^2$ (b) $(r_1 r_2)^2$ (c) (r_1/r_2) (d) (r_2/r_1)

6	<p>Twenty-seven drops of mercury are charged simultaneously to the same potential of 10 volts. What will be potential if all the charged drops are made to combine to form one large drop ?</p> <p>(a) 180 V (b) 90 V (c) 120 V (d) 45 V</p>
7	<p>The amount of work required to increase the distance between $-6\mu\text{C}$ and $4\mu\text{C}$ from 6 cm to 18 cm will be :</p> <p>(a) 1.8 J (b) 2.4 J (c) $1.8\ \mu\text{J}$ (d) $2.4\ \mu\text{J}$</p>
8	<p>An electron initially at rest is accelerated through a potential difference of one volt. The energy gained by electron is:</p> <p>(a) 1 J (b) 1.6×10^{-19} J (c) 10^{-19} J (d) None of these</p>
9	<p>Choose the SI unit of electric potential energy :</p> <p>(a) Joule (b) Coulomb (c) Newton per coulomb (d) Erg</p>
10	<p>The capacitance of earth, viewed as a spherical conductor of radius 6408 km is:</p> <p>(a) $1420\ \mu\text{F}$ (b) $712\ \mu\text{F}$ (c) $680\ \mu\text{F}$ (d) $540\ \mu\text{F}$</p>
11	<p>A capacitor is connected across a battery and the plate separation of capacitor is increased without removing the battery, then:</p> <p>(a) capacitance will increase (b) charge stored will increase (c) energy stored will decrease (d) potential difference will increase</p>
12	<p>Two capacitors of $3\ \mu\text{F}$ and $6\ \mu\text{F}$ are connected in series with a battery of P.d. 12 V. The P.d. across $3\ \mu\text{F}$ and $6\ \mu\text{F}$ capacitors respectively will be :</p> <p>(a) 8 V, 4 V (b) 6 V, 6 V (c) 4 V, 8 V (d) 9 V, 3 V</p>
13	<p>An electric charge of $425\ \text{f}\ \mu\text{C}$ is removed from a fully charged capacitor of capacitance $8.5\ \mu\text{F}$. Its potential will be lowered by:</p> <p>(a) 75 V (b) 100 V (c) 85 V (d) 50 V</p>

14	Minimum number of capacitor of $2\mu\text{F}$ each required to obtain a capacitance of $5\mu\text{F}$ will be: (a) 4 (b) 3 (c) 5 (d) 6
15	The electric potential of earth is taken as: (a) zero (b) infinity (c) unity (d) None of these
16	What is the SI unit of electric potential? (a) J/C (b) J-C (c) v-m (d) J/c-m
17	A charge Q is placed at the origin. The electric potential due to this charge at a given point in space is V . The work done by an external force in bringing another charge q from infinity up to the point is (a) v/q (b) vq (c) $v+q$ (d) v
18	If 100 J of work has to be done in moving an electric charge of 4 C from a place, where potential is -10 volt to another place where potential is V volt, find the value of V .



**POLITICAL
SCIENCE**

VIRTUE AND KNOWLEDGE

DELHI

Complete Holiday homework worksheet based on competency of Ch-1 and 2 separately on A-4 size sheet (Worksheet attached at the end of page)

Political Science Project- Prepare a project according to CBSE guidelines.
Topics as discussed in the classroom.

Some suggested topics are:

1. Nation building
2. Globalization.
3. New centres of Power
4. India's relations with USA or USSR.
5. United Nations.
6. Regional Aspirations.
7. Contemporary South Asia
8. Emergency 1975
9. Recent Development in Indian Politics

INSTRUCTIONS ARE AS FOLLOWS:

1. Project must be handwritten. Print outs will not be accepted.
2. Project to be done individually.
3. Page Limit- 25-30 pages.
4. Pictures must be incorporated.(On the left hand side)
5. Assessment will be based on creativity, presentation and research work conducted by the student.

C) Prepare a poster on 'Emergency - black day for Indian Democracy'.

ASSIGNMENT -1

Challenges of Nation Building

1. Read the passage given below carefully and answer the following questions:

The interim government took a firm stance against the possible division of India into smaller principalities of different sizes. The Muslim League opposed the Indian National Congress and took the view that the States should be free to adopt any course they liked. Sardar Patel, India's Deputy Prime Minister and the Home Minister during the crucial period, immediately after Independence, played a historic role in negotiating with the rulers of Princely States in bringing most of them into the Indian Union.

Questions

- A) Which government has been referred to as the interim government?
 - B) Why did the Muslim League oppose the Indian National Congress?
 - C) What makes the role of Sardar Patel a historic one? Explain.
2. What forced the Union Government of India to appoint the State Reorganisation Commission in 1953? Was it necessary? Mention its two main recommendations. Name any four new states formed after 1956.
2. How did the state of Hyderabad become a part of the Indian Union after partition?
3. What are the reasons being used by Nehru for keeping India secular? Do you think these reasons were only ethical and sentimental? Or were there some prudential reasons as well?
4. What was the huge obstacle in nation building at the time of India's independence?
5. What were the circumstances when India attained its independence?
6. Which states were created on the basis of separate regional culture or complaints of regional imbalance in development?
7. How did the state of Hyderabad become a part of the Indian Union after partition?

ASSIGNMENT -2

End of bipolarity

1. The value of the Ruble declined dramatically. The rate of inflation was so high that people lost all their savings. The collective farm system disintegrated leaving people without food security, and the government started to import food. The old trading structure broke down with no alternative in its place. The old system of social welfare was systematically destroyed. The withdrawal of government subsidies pushed large sections of the people into poverty.

- A) What is meant by subsidy?
- B) How did the disintegration of the collective farm system lead to the loss of food security?
- C) This passage is associated to which country? Why did the government start importing food?

2. Describe any four consequences of the disintegration of Soviet Union.

3. Which two republics of the USSR have had violent secessionist movements at the time of its disintegration?

4. Discuss the economic relationship between India and the Soviet Union during the Cold War era.

5. Describe the factors that make most of the former Soviet Republics prone to conflicts and threats.

6. List any four differences between the socialism and communism.