



S.L.S.D.A.V.PUBLIC SCHOOL, MAUSAM VIHAR,DELHI-51
HOLIDAY HOME-WORK
CLASS XII
SESSION : 2021-2022

ENGLISH CORE

Q1. WRITING

A) Collect 5 different categories of **CLASSIFIED ADVERTISEMENTS** and 5 different categories of **COMMERCIAL ADVERTISEMENTS** from E- Newspapers and make a PPT for giving a detailed oral presentation in class as a part of Internal Assessment. **(Roll No. 1-10)**

B) Collect 5 different types of **REPORTS** from E-Newspapers i.e. of Road Accident / Natural Calamity / Cultural Event / Conference / Seminar / Webinar / Survey or Study, and make a PPT for giving a detailed oral presentation in class as a part of Internal Assessment. **(Roll No. 11-20)**

C) Collect 5 different types of **POSTERS** from E-Newspapers / E-Magazines i.e. issued by Health dept. / Traffic dept. / Cultural dept. / NGO / any government ministry etc. and make a PPT for giving a detailed oral presentation in class as a part of Internal Assessment. **(Roll No. 21-30)**

D) Collect 3 different types of samples of **Complaint mails** and 3 different types of **Enquiry mails** to various companies / Government ministries / Educational Institutions etc. and make a PPT for giving a detailed oral presentation in class as a part of Internal Assessment. **(Roll No. 31-40)**

E) Collect 5 different types of detailed **Resumes / Bio-Data** to various companies / Government ministries / Educational Institutions etc. for different posts and make a PPT for giving a detailed oral presentation in class as a part of Internal Assessment. **(Roll No. 41 onwards)**

Q.2 LITERATURE

Complete all question answers from the worksheets already provided to you on the Chapters – THE LAST LESSON, MY MOTHER AT SIXTY-SIX, LOST SPRING.

NOTE - NEED TO ATTEMPT THEM IN SCHOOL ENGLISH NOTE BOOK.

THE LAST LESSON by Alphonse Daudet

QUESTIONS FOR PRACTICE

SHORT ANSWER QUESTIONS

Pg. – 1-2

1. Why was Franz unwilling to go to school?
2. Why didn't M. Hamel punish Franz, even though he was late?
3. What do you think was written on the bulletin board?

Pg. – 4-5

4. Mention the three changes that Franz noticed in the school?
5. What announcement did M. Hamel make and what was its impact?
6. Why did M. Hamel say about knowing one's language is a key to prison?
7. Whom did Mr. Hamel blame for not learning French?

Pg.- 7-8

8. What changes have taken place in the school in the last forty years?
9. What did he mean by "Vive La France"?
10. What does Franz mean when he asks to himself: "Will they make them sing in German even the pigeons?"
11. How does Hamel arouse patriotism in the people of Alsace?

LONG ANSWER QUESTIONS (125 -150 words)

1. Write a note on the character of M. Hamel as a teacher.
2. Do you think the story touches upon the brutalities of war? Comment.
3. What thunderbolt did the narrator receive on reaching the school? How did it affect him ?
4. At the end of the last lesson M. Hamel wrote, 'Viva La France' on the board in bold letters. Why do you think he wrote that and how did he expect the people of Alsace –Lorraine to keep their identity intact?
5. What were Franz' feelings about M. Hamel and his French lessons? How did they undergo a complete change?

Competency Based Question: Answer the following in about 100 words:

M Hamel in 'The Last Lesson' says to the people of Alsace about the necessity of their mother tongue- French: " We must guard it among us and never forget it because when a people are enslaved, as long as they hold fast to their language it is as if they had the key to their prison". 'Mother tongue is the language of one's thoughts and ideas. Rejecting one's mother tongue is denying one's own culture and identity.' Do you think so? Write your reflections on the above statement in the form of an article to be published in your school magazine , encouraging your friends to the need for learning and protecting their mother tongue.

MY MOTHER AT SIXTY SIX - by Kamala Das

THEME: The poem "My Mother at Sixty- six" examines the themes of:

- (i) Advancing age
- (ii) The fear of loss & separation.

Figures of Speech used:

- *SIMILE-: her face ashen like that of a corpse, as a late winter's moon
- *METAPHOR-: her face ashen
- *REPETITION-: smile and smile and smile
- *CONTRAST-: Old mother in the car has been contrasted with the young trees running and happy children coming out of their homes to the sadness of the poet on realizing the advancing age of her mother.

*PERSONIFICATION-: trees sprinting

Practice Questions:

- (a) What was the poet's childhood fear?
- (b) Why did the poet smile when she said goodbye to her mother?
- (c) Why is mother compared to the late winter's moon?
- (d) What were the parting words of the poet?
- (e) What are the two images of youth used by the poet?
- (f) What is the mood of the poem? Why?
- (g) What was Kamala Das's fear as a child? Why does it surface when she is going to airport?
- (h) Why, do you think, Kamala Das wrote this poem?

R.T.C. PRACTICE :

Q.1 Read the following extract and answer the questions that follow: (1 x 4 =4)

.....and felt that
Old familiar ache, my childhood fear,
But all I said was, see you soon,
Amma, all I did was smile and smile and smile.

- (a) Name the poem and the poet.
- (b) What is the poet's childhood fear?
- (c) What were the parting words of the poet?
- (d) Why did the poet smile and smile?

Q.2 Read the following extract and answer the questions that follow: (1 x 4 = 4)

Driving from my parent's
home to Cochin last Friday
morning: I saw my mother,
Beside me;

- (a) Where was the poet going?
- (b) What was her mother doing?
- (c) Who is "I"?
- (d) What does poet realize when she looks at her mother?

LOST SPRING: STORIES OF STOLEN CHILDHOOD by Anees Jung

SHORT ANSWER QUESTIONS

1. What does Saheb do for living? Why?
2. "Saheb is no longer his own master", says the writer. What does she mean?
3. Why did people migrate from the village in Dhaka to Delhi?

4. What trade does the family of Mukesh follow? Why does the writer feel that it will be difficult for Mukesh to break away from this tradition?
5. What does garbage symbolize for the adults and children?
7. What does the title of the story 'Lost Spring' imply?
8. Where has Saheb come from and why?
9. How is Saheb's name full of irony?
10. "Promises made to poor children are never kept." Explain with examples from the lesson.
11. Mention the hazards of working in the bangle industry.
12. 'His dreams loom like a mirage'. Whose dreams are being referred to and why are they compared to a mirage? Do you think Mukesh will realize his dream of becoming a car mechanic?
13. 'Together they have imposed the baggage on the child that he cannot put down.' Who do 'they' refer to? What is the 'baggage' and why can the child not get rid of it?
14. Why is Mukesh's attitude to his situation different from that of his family?
15. Why does the author describe children of slums as partners in survival?
16. How has being born in the caste of bangle makers become both a destiny and a curse?

LONG ANSWER QUESTIONS

1. 'Lost Spring', is a sad commentary on the political system of our country that condemns thousands of people to a life of abject poverty. Comment.

OR

Politicians exploit all people and situations to their own benefit. Comment, keeping in view the situation of refugees in Seemapuri.

2. Like all children of his age, Saheb also had many hopes and dreams. Do you think children like Saheb are able to fulfill their dreams?

3. Saheb wants to blossom and bloom but is nipped in the bud. Elaborate.

4. 'Saheb and Mukesh are brothers in penury and suffering.' Discuss.

6. Mukesh says "I will be a motor mechanic. I will learn to drive a car."

Not only setting a goal, but having a clear idea about the means to reach the goal and pursuing it with strong determination and commitment are essential to achieve success. Based on this realization, write a detailed e-mail to your younger brother, a boarding school student, making him aware of the need for setting realistic goal and planning ways to reach it with strong determination and commitment.

R.T.C.

1. It is not lack of money but a tradition to stay barefoot, is one explanation. I wonder if this is only an excuse to explain away a perpetual state of poverty.

a) Who is 'I' in the above lines? Whom is she talking about?

b) According to whom is, staying barefooted, a tradition? Why?

c) What is the actual reason for them staying barefooted? Why does author come to this conclusion?

d) Name the chapter and the author.

2. Children grow up in them, becoming partners in survival. And survival in Seemapuri means rag-picking. Through the years, it has acquired the proportions of a fine art. Garbage to them is gold. It is their daily bread, a roof over their heads, even if it is a leaking roof.

- a) What is 'them' in the above extract?
- b) Find one word / a phrase that reflects the importance of rag picking in the life of people of Seemapuri.
- c) How are the children 'partners in survival' and of whom?
- d) According to you, what does future hold for these children?

3. His dream looms like a mirage amidst the dust of streets that fill his town Firozabad, famous for its bangles.

- a) Whose dream is being talked about in the above lines?
- B) What is his dream?
- c) Why is the dream compared to a mirage?
- d) Do you think 'he' will be able to fulfill his dream? Give reason for your opinion.

4. The cry of not having money to do anything except carry on the business of making bangles, not even enough to eat, rings in every home. The young men echo the lament of their elders. Little has moved with time, it seems,.....

- a) Which city is the story based in and who is the writer?
- b) The biggest problem being faced by everyone is _____ .
- c) Pick the line which shows their perpetual state of poverty.
- d) What is the attitude of young generation towards their sufferings? Why?

CREDIT TEST 1 ENGLISH CORE SYLLABUS-

. COMPREHENSION PASSAGE

. LETTER TO EDITOR

. THE LAST LESSON

. MY MOTHER AT SIXTY-SIX

PHYSICAL EDUCATION

All the HPE students have to complete project work as mentioned below in HPE practical file:

Record File shall include:

Practical-1: Fitness tests administration for all items.

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

Practical-3: Procedure for administering Senior Citizen Fitness Test for 5 elderly family members.

Practical-4: Any two games (*Cricket Common)

Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket,(Mandatory)
of your choice out of the list above. Labelled diagram of field & equipment (Rules, Terminologies & Skills).

***UT 1 syllabus:**

Unit 1 Planning in Sports

Unit 2 Sports and Nutrition

हिन्दी ऐच्छिक

काव्य :

देवसेना का गीत , कार्नेलिया का गीत

गद्य :

प्रेमघन की छाया स्मृति

अंतराल:

सूरदास की झोपड़ी, आरोहण

दोनों कहानियों पर आधारित कम से कम 20 प्रश्न तैयार कीजिए और उनके उत्तर लिखिए।

पत्र लेखन :

- संपादक को पत्र
- शिकायती पत्र
- आवेदन पत्र
- धन्यवाद ज्ञापन पत्र

रचनात्मक लेखन

- सपने में कोरोना से बातचीत
- आपके विचार: आपके चरित्र निर्माता
- तेज़ी से बढ़ता साइबर क्राइम
- चरित्र निर्माण में पुस्तकों की भूमिका

समाचार लेखन :

कोरोना के दौरान अस्पतालों की स्थिति का वर्णन करते हुए एक समाचार तैयार कीजिए।

उपर्युक्त पाठ्यक्रम को **CT-1** परीक्षा के लिए तैयार कीजिए।

हिंदी परियोजना कार्य-20 अंक

निम्नलिखित विषयों में से किसी एक विषय पर परियोजना अर्थ प्रोजेक्ट फाइल तैयार कीजिए।

(१२-१५ पृष्ठ)

- अपने प्रिय साहित्यकार का परिचय
- गूगल पर हिंदी का बढ़ता प्रयोग
- स्वरचित कविताओं का संकलन
- स्वरचित कहानियाँ
- हास्य रस के प्रसिद्ध कवि
- वीर रस के प्रसिद्ध कवि
- शृंगार रस के प्रसिद्ध कवि
- शांत रस के प्रसिद्ध कवि
- नव रस और उनके प्रमुख कवियों का परिचय
- छायावाद और उसके प्रमुख कवि
- प्रयोगवाद और उसके प्रमुख कवि
- महादेवी वर्मा का पशु प्रेम
- समाचार, आलेख और फीचर लेखन: एक तुलनात्मक अध्ययन
- भारतेन्दु युग
- प्रेमचंद युग

LEGAL STUDIES

SYLLABUS CYCLE 1 : UNIT 1 JUDICIARY

1. Prepare a PowerPoint presentation on History, composition and functions of the Supreme Court.
2. Describe the scope of Judicial Review in India.
3. How does independence of the judiciary relate to due process of law ?
4. Provide examples of how Judges are trained once appointed? What are the benefits of such trainings?

3. Explain the objectives of British government for promoting the railways in India.
4. Explain any three positive contributions made by the British in India.
5. Explain the challenges for the Indian economy on the eve of Independence.
6. State the features of Indian Economy at the time of Independence.
7. Explain four main causes of India's agricultural stagnation during colonial period.
8. Was there any economic drain during the colonial period? Explain
9. Briefly explain about industrial sector at the time of independence.
10. What was the state of foreign trade at the time of independence.
11. What is occupational structure ? Briefly explain about it during British period ?
12. What was the state of infrastructure at the time of independence.
13. Briefly explain about Demographic Conditions on the eve of independence.

CHAPTER 2: INDIAN ECONOMY 1950-1990

ONE MARK QUESTIONS AND ANSWERS:-

1. Self-reliance means avoiding:
(a) Exports (b) imports (c) Both (a) and (b) (d) None of the above.
2. A good indicator of growth is steady increase in the :
(a) Gross Domestic Product (b) Net Domestic Product
(c) Population (d) National income.
3. Which factor led to the breaking up of the stagnation of agriculture?
(a) Land reforms (b) Green Revolution (c) Buffer stocks (d) Land ceiling.
4. The planning commission was set up in
(a) 1948 (b) 1950 (c) 1951 (d) 1956
5. Who is known as the architect of "Indian Planning"?
(a) Jawaharlal Nehru (b) Dr. BR Ambedkar
(c) PC Mahalanobis (d) Sardar Vallabhbhai Patel
6. When was first five-year plan introduced?
(a) 1st April, 1950 (b) 1st April, 1951 (c) 1st April, 1952
(d) 31st March, 1950

7. The common goals of the five year plans are :
(a) Modernisation (b) Growth (c) Self –reliance
(d) All of the above.

ANSWERS THE FOLLOWING QUESTIONS:-

1. Explain “growth with equity” as planning objective.
2. Are self –Reliance and self-sufficiency the same?
3. Explain Why was there a need for reform of economic policy in 1990?
4. Explain Subsidies provide an incentive for wasteful use of resources”. Do you accept/reject? Justify your answer.
5. What is import substitution policy? Why it was introduced in India?
6. Explain how tariffs and quotas protect the domestic industry?
7. Why was the Green Revolution implemented?
8. How did Green Revolution benefit the farmers?
9. What were the disadvantages of the Green Revolution?
10. Explain the importance of industrial sector in economic growth and development of the Indian economy.
11. How were the industries classified according to the industrial policy Resolution,1956?
12. While subsidies encourage farmers to use new technology, they are a huge burden on government finances. Discuss the usefulness of subsidies in the light of this fact.
13. Explain the various land reforms introduced post-independence in India in the agricultural sector.

NOTE : DO THE GIVEN ASSIGNMENTS IN THE SCHOOL REGISTER

GUIDELINES FOR PROJECT WORK

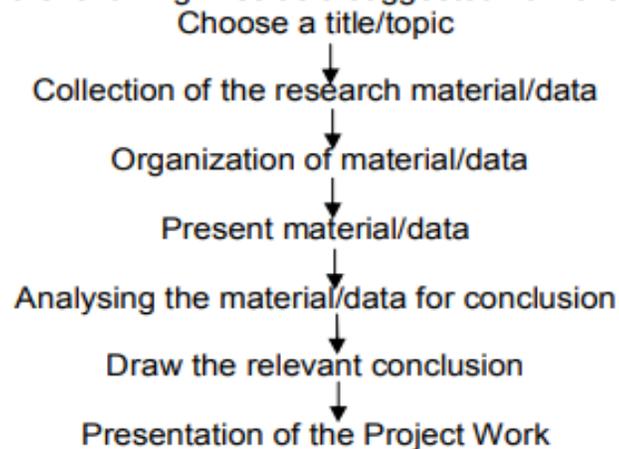
- Students are supposed to pick any ONE of the suggested projects..
- Project should be of 3,500-4,000 words (excluding diagrams & graphs), preferably hand-written .
- It will be an independent, self-directed piece of study.

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

- Probe deeper into theoretical concepts learnt in class
- Analyse and evaluate real world economic scenarios using theoretical constructs and arguments demonstrate the learning of economic theory
- Follow up aspects of economics in which learners have interest
- Develop the communication skills to argue logically
- The expectations of the project work are that: learners will complete only **ONE project** in this 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

Scope of the project:

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



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.

| Class XII | |
|--|--|
| • Micro and Small Scale Industries | • Food Supply Channel in India |
| • Contemporary Employment situation in India | • Disinvestment policy of the government |
| • Goods and Services Tax Act and its Impact on GDP | • Health Expenditure (of any state) |
| • Human Development Index | • Inclusive Growth Strategy |
| • Self-help group | • Trends in Credit availability in India |
| • Monetary policy committee and its functions | • Role of RBI in Control of Credit |
| • Government Budget & its Components | • Trends in budgetary condition of India |
| • Exchange Rate determination – Methods and Techniques | • Currency War – reasons and repercussions |
| • Livestock – Backbone of Rural India | • Alternate fuel – types and importance |
| • Sarwa Siksha Abhiyan – Cost Ratio Benefits | • Golden Quadrilateral- Cost ratio benefit |
| • Minimum Support Prices | • Relation between Stock Price Index and Economic Health of Nation |
| • Waste Management in India – Need of the hour | • Minimum Wage Rate – approach and Application |
| • Digital India- Step towards the future | • Rain Water Harvesting – a solution to water crises |
| • Vertical Farming – an alternate way | • Silk Route- Revival of the past |
| • Make in India – The way ahead | • Bumper Production- Boon or Bane for the farmer |
| • Rise of Concrete Jungle- Trend Analysis | • Organic Farming – Back to the Nature |
| • Any other newspaper article and its evaluation on basis of economic principles | • Any other topic |

ACCOUNTANCY

Do specific project of Accountancy

- DO IN NOTE BOOK

Scanner ---- Unit 1 Financial statement of not for organisation(T.S.GREWAL)

1. Very short Answers from question number 1 to 37
2. Short answer ---Q no 1
3. Practical Problem from 1 to 15
4. **NCERT book** QNo 1 to 19

Lesson 2--- Accounting for Partnership -Basic Concept (T.S.GREWAL)

Very short Answer Question question no 1 to 20

Scanner PAGE S.29 question from 1 to 7

NCERT book short answer from 1 to 5

Syllabus for credit 1(UNIT TEST 1)

Unit 1 Financial statement of not for organisation

Lesson 2--- Accounting for Partnership -Basic concept

Lesson3 ---Goodwill

BUSINESS STUDIES

A. PREPARE THE PROJECT WORK AS PER CBSE GUIDELINES.

B. PREPARE FOR CYCLE TEST – 1

SYLLABUS –

Chapter 1 Nature and purpose of management

Chapter 2 Principles of management

Chapter 3 Business Environment

C. DO THE FOLLOWING ASSIGNMENT IN YOUR NOTEBOOK.

CHAPTER I

1. Name the concept of management which involves the grouping of the required tasks into manageable departments or work units and establishment of authority and reporting relationships within the organisational hierarchy. Explain its meaning.
2. One of the very important aspects of management is to make sure that the right people with the right qualification are available at the right places and times to accomplish the goals of the organisation. Identify and explain the aspect of management.
3. Which management function of monitoring organisational performance towards the attainment of organisational goals. Name and explain it.
4. Which function of management decides who will do a particular task, where it will be done, and when it will be done Identify and explain it.
5. "McDonalds, the fast food giant made major changes in its menu to be able to survive in the Indian market."
Identify and State the characteristic of management highlighted in the above statement.
6. Which function of management relates to assigning duties, grouping tasks, establishing authority and allocating resources required to carry out a specific plan? Identify and explain.
7. Name the process of working with and through others to effectively achieve organisational objectives by efficiently using limited resources in the changing environment. Identify and explain.

8. Suhasini, the General Manager of Fabmart, performs the managerial functions of planning, organising, staffing, directing and controlling as an ongoing process. Which management feature is highlighted by this? Identify and explain.
9. Vrinda Ltd. is able to achieve the target production of 5,000 units within the prescribed period. However, to achieve the target on time, additional Rs 40,000 were paid as overtime wages to employees. Do you think Vrinda Ltd. is effective and efficient in its working? Give reason.
10. Hero Ltd.'s target is to produce 10,000 shirts pe month at a cost of Rs 150 per shirt. The Production Manager could achieve this target at a cost of Rs 160 per shirt. Do you think the Production Manager is 'effective'? Give reason in support of your answer.
11. Social-Connect Pvt. Ltd. is a mobile manufacturing company. The managdynamic and a lot of changes were taking place in the mobile market and hence, the risk of the product becoming obsolete is high. The designs of the phones are governed by requirements and preferences of the customers. He started incorporating new and advanced features taking clue from the consumers and with the help of his workers. Identify the characteristic of management highlighted in this case.
12. Anushka Fabric Ltd. has been able to achieve its production targets as per plans using a new German technology. Its employees are happy and satisfied with their pay scale and working environment in the organisation. All the work proceeds as per plans and there is orderliness in the entire functioning of the organisation. Identify and explain feature of the management discussed above.
13. Name the level of management at which the managers are responsible for implementing and controlling the plans and strategies of the organisation. State any four functions of the level identified.
14. At which level of management the managers are responsible for the welfare and survival of the organisation? State any four functions of the level identified.
15. Management of Alpha Ltd. has installed a special recycling plant to recycle the waste instead of dumping the waste in ground. It is also providing employment opportunities to local residents. Company started a school nearby for the children of their employees. Identify the objective of management the company is fulfilling. State any two other objectives of management
16. The manager of Beta Ltd. is very efficient and effective and makes sure that all the employees and workers in his team perform the task on time with minimum cost. His main focus is on cost reduction. So he never listens to the demand of workers for increasing wages. He even gives no opportunity to workers for promotion. As a result workers started becoming frustrated and disheartened all the time. Which objective of management could not be achieved by the manager? Explain the identified concept.
17. Mr. Shiv Sharma and Ms. Suhasini are both managers of HTL Ltd. Mr. Shiv is the CEO of the company and Ms. Suhasini is a branch manager at HTL Ltd. They manage the enterprise at different levels. At which levels of management are they working in HTL Ltd.? State any four functions of each.
18. Ashutosh Goenka was working in 'Axe Ltd.', a company manufacturing air purifiers. He found that the profits had started declining from the last six months. Profit has an implication for the survival of the firm, so he analysed the business environment to find out the reasons for this decline.
- Identify the level of management at which Ashutosh Goenka was working.
 - State three other functions being performed by Ashutosh Goenka.

19. A. R. Rehman is the first Indian to win Oscar award for his composition 'Jai Ho'. His composition of music is unique as he has used the singing notes in a manner that is entirely his own interpretation. Like A. R. Rehman, Mr. Suman, General Manager in Star Ltd., uses his knowledge of management in a unique manner. All the employees working under his guidance are happy and satisfied because of his good behaviour. He everyday rewards/appreciates the employees for coming office on time, performing their assigned tasks with best of their capabilities. Moreover, Mr. Suman treats all his employees as fairly as possible. He does not discriminate his employees on the basis of sex, religion, caste, belief, etc.

Identify and explain the nature of the management highlighted in the above case.

20. The purchase, production and sales managers at Sharda Ltd, a firm manufacturing ready made garments are generally at a conflict, as they have their own objectives. Usually each thinks that only they are qualified to evaluate, judge and decide on any matter, according to their professional criteria.

Name and explain the concept which will be required by the CEO Mr. Raman, to reconcile the differences in approach, interest or opinion in the organisation. Discuss the importance of concept identified.

CHAPTER – 2 **PRINCIPLES OF MANAGEMENT**

1. A manager enhances the production target from 500 units to 700 units per month but the authority to draw raw material was not given by him. The production manager could not achieve the revised production target. Who is responsible and which principle was violated? Explain.

2. Loyd Co. Ltd. manufactures motorcycles and cars. It has two separate divisions for both of them. Each division has its own incharge, plans and execution resources. On no account the working of two divisions overlap. Which principle of management is followed by Loyd Co. Ltd.? Identify and explain.

3. In a formal organisation, a worker cannot directly contact the CEO of the company. If at all he has to, then all the formal levels, i.e. foreman, superintendent, manager, director, etc have to know about the matter. However, in an emergency it can be possible that a worker can contact CEO directly.

A. Identify and state the principle of management highlighted above.

B. State the device that can be used when in an emergency a worker can contact the CEO directly.

4. Zoya International Ltd. is a multinational company in which people of various nationalities work together with a team spirit of unity and harmony in a discrimination free environment. Equal opportunities are available for everyone in the company. The pay and compensation of all the employees is just and equitable.

A. State the principles of management being followed by Zoya International Ltd.

B. What benefits will Zoya International Ltd. derive by following the principles identified in part (a).

5. Zaika Ltd. is a company manufacturing garments under the brand name 'Amol'. The management of the company does not give the workers reasonable time to show results. Even the management does not promote a team spirit of unity and harmony among the workers. The workers often have to work under two superiors at the same time.

Identify and state the principles of management overlooked in the above case.

6. 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.

Which principle of management has been overlooked by this company?

7. Mr. Prakash Chopra, General Manager of M/s Kwality Enterprises (Leather bags manufacturing company) retains complete authority over all the activities of the business. No decision-making power is given to the subordinates. As a result, Mr. Prakash is always engaged in day-to-day operational activities and is unable to concentrate on core issues of the company.

Identify the management principle violated by Mr. Prakash Chopra.

8. Mr. Kapoor, Finance manager of ABC Ltd. applied for leave to attend a family function in Amritsar. The director of the company requested him to cancel his leave as there is an important meeting schedule on that date. Mr. Kapoor immediately agreed and cancelled his trip as he thought that attending the meeting was more important for company's benefit.

Which principle of management is highlighted in this case? Explain.

9. Name and explain the principle of management which resembles military organization.

10. Mr. Gopal, HR Manager of a company, selects each person scientifically, assigns work to each employee according to her/his physical, mental and intellectual capabilities. He also gives them the required training so that they may produce more and earn more. This will ensure their prosperity for both company and workers. Identify and explain the principle of management highlighted in the above case.

11. Ram Kishan is the owner of a shoe manufacturing factory. He follows the traditional practice of fixing standard time of work based on his own past experiences. He could not match the supply with the demand for shoes produced in his factory. His son, Shyam who has done MBA from FMS joined business and suggested to fix the standard time by analysing the work scientifically. The production increased and supply could match the demand. Which principle of scientific management of Taylor is highlighted in above case? Discuss.

12. Pawan is working as a 'production manager' in CFL Ltd. engaged in manufacturing of CFL bulbs. There is no class conflict between the management and workers. The working conditions are very good. The company is earning huge profits. As a policy matter, management is sharing the gains with the workers because they believe that prosperity of the company cannot exist for a long time without the prosperity of the employees.

Identify and explain the principle of management described in the above para.

13. In one of the principles of scientific management, Taylor emphasises that there should be equal division of work and responsibility between workers and management and management should work almost side by side with workers helping and smoothing the way for them. Identify and explain the principle.

14. According to Taylor, even a small production activity like loading pigs of iron into boxcars can be scientifically planned and managed. This can result in tremendous saving of human energy as well as wastage of time and materials. The more sophisticated the processes, greater would be the savings. In the present context, the use of internet has brought about dramatic improvements in internal efficiencies and customer satisfaction.

Identify and explain the principle of management highlighted above.

15. Damini D'souza took over the reins of 'Kinsa Retail' as its Managing Director in India. Kinsa Retail with its headquarters at Japan has been in retail business for the last 40 years. It has regional offices in many countries with each regional office taking care of the shops in that particular region. As it is a large organisation, the regional officers have been given the powers to decide and spend funds sanctioned to them by the headquarter for the welfare of the customers of their region.

Kinsa Retail wants the highest possible standards of ethical conduct being followed for which a code of conduct is in place for putting values into practice. All employees as well as Board members are required to act in accordance with the highest standards of personal and professional integrity when acting on behalf of the company. Non-compliance involves a heavy penalty including termination of employment.

Identify and state two principles of general management being followed by Kinsa Retail.

PSYCHOLOGY

A. **Complete the Assignment** given to you from Chapter 1: Variations in psychological attributes in your respective school Register.

B. **FILE WORK INDEX** (LEAVE IT BLANK AS OF NOW)

C. **CASE PROFILE:**

INTRODUCTION TO CASE PROFILE FILE (HEADING)

-Introduction of case study

-Purpose of case study

-Types of case study

-Advantages of case study

-Disadvantages of case study

PRECAUTIONS TAKEN

-(voluntary participation ; informed consent; debriefing and sharing results ; confidentiality – refer to class 11th ncert psychology book)

INTRODUCTION OF YOUR TOPIC CHOSEN(Meaning, types, causes ,factors , strategies)

TOOLS FOR COLLECTING DATA :

1. OBSERVATION METHOD (EXPLAIN)

2. INTERVIEW METHOD (EXPLAIN)

3. PSYCHOLOGICAL TEST (EXPLAIN)

P.S.: Refer to class 11th NCERT book

If the topic is being approved by the Teacher then Introduction of the topic chosen by you can be also written through sources mentioned to you.

DEMOGRAPHIC INFORMATION : (on one page)

1. Name

2. Age
3. gender
4. birth order
5. number of sibling
6. Education
7. locality of residence
8. religion
9. parental education and occupation
10. Family income
11. Subject's medical history
12. introspective report

Family History (on one page)

1. Family Tree
2. Family arrangement: Joint family/ nuclear family with its advantages and disadvantages.
3. Family details

Name of the father:

Age:

Qualification:

Occupation:

Designation:

Name of the mother:

Age:

Qualification:

Occupation:

Designation:

WHY I CHOOSE THIS TOPIC (NEED TO BE APPROVED)

- Rationale for choosing the topic and the case.
- Please frame the rationale for your participant.
- It should be written in 30-50 words.
- It should be framed on the theme that you want to understand for the participant.

CASE HISTORY (NEED TO BE APPROVED)

- Developing a case profile would primarily involve the use of qualitative techniques, such as observation, interview, survey, etc.
- During the course of preparing a case profile, the students would gain first-hand experience in the use of these qualitative techniques. The main objective of preparing a case profile is to understand the

individual in totality. This would further help in establishing the cause and effect relationship more accurately.

Guidelines for writing the Case history

- Write the introduction in not more than 100-150 words.
- Specify the Name, Age, Gender
- How do you know the participant? Since when? Voluntary case or a referral case?
- What is the participant doing at present?
- Where does he/she live?
- Avoid personal comments like she/he is sweet, kind, helpful, ambitious etc.
- Avoid conclusions like he is suffering because of his harsh parents.
- Rationale for choosing your participant

INTERVIEW QUESTIONS (NEED TO BE APPROVED) (15 MINIMUM)

UNDER NO CIRCUMSTANCES YOU SHOULD CARRY THE INTERVIEW PERSONALLY BUT IF THE INTERVIEW QUESTIONS ARE BEING APPROVED YOU CAN TAKE THE INTERVIEW TELEPHONICALLY.

- INTERVIEW: (some general questions that can be incorporated in the interview)
- **INFORMANT INTERVIEW (IT IS NOT COMPULSORY)**

GENERAL QUESTIONS FOR REFERENCE

SUBJECTS INTERVIEW (15 TO 20 QUESTIONS)

1. Who is your role model ?
2. Do you enjoy the company of your family ?
3. What stream you have chosen and why ?
4. How often do you go out with your family ?
5. Do you enjoy your studies?
6. What kind of entertainment do you like ?
7. In what kind of environment do you enjoy the most ?
8. What are your hobbies ?
9. Is there any kind of restriction put on you by your family ?
10. Do you feel shy talking to people in a group ?
11. Do you share your problems with your family
12. What is your aim in life
13. Whom do you trust the most in your family
14. Will you do something that your family objects to ?
15. How much time do you take out for your family
16. Do you trust your friends ?
17. What kind of looks interests you the most ?
18. Are you short tempered ?

PARENT INTERVIEW : MOTHER :-

1. Do you trust your son / daughter ?
2. Do you force him/her to do anything which he/she wouldn't do ?
3. Do you trust his /her friends ?
4. Do you take him/her out on outings regularly ?
5. Do you force him/her in terms of studies?
6. Do you believe in giving pocket money to your child ?
7. Is he/she very moody ?
8. How often do you allow your son/daughter to go out with his/her friends ?
9. Are you satisfied with the company of your friends ?
10. What kind of passion do you see in your child ?
11. Does your child listen to you ?
12. Does he /she hesitate in sharing problems with you ?
13. Have you ever allowed your child to drive your vehicle ?
14. Do you think mobile phones are necessary for your child ?
15. Are you possessive about your child ?
16. What qualities of him / her do you like the most
17. Are you aware of his /her hobbies ?
18. What is his /her attitude towards life ?

PARENT INTERVIEW : FATHER

1. Do you trust your son / daughter ?
2. Do you force him/her to do anything which he/she wouldn't do ?
3. Do you trust his /her friends ? Do you take him/her out on outing regularly ?
4. Do you force him/her in terms of studies?
5. Do you believe in giving pocket money to your child ?
6. Is he/she very moody ?
7. How often do you allow your son/daughter to go out with
8. his/her friends ? Are you satisfied with the company of your friends ?
9. What kind of passion do you see in your child ? Does your child listen to you ? Does he /she hesitate in sharing problems with you ?
10. Have you ever allowed your child to drive your vehicle ?
11. Do you think mobile phones are necessary for your child ?
12. Are you possessive about your child ? What qualities of him / her do you like the most
13. Are you aware of his /her hobbies ?
14. What is his /her attitude towards life ?

FRIEND'S INTERVIEW

1. Since when have you been friends with him /her ?

2. How far do you trust him /her?
3. Do you like his /her company
4. Are you proud of your friend
5. Do you know about his likes and dislikes
6. What is his /her aim in future
7. How often do you meet him /her
8. What do you appreciate the most about him/her ?
9. Is he/she into the habit of smoking or drinking ?
10. Does he /she listen to his /her parents ?
11. What kind of sports he likes
12. Whether he/she goes out for parties ?
13. Is he /she satisfied with the pocket money he /she gets
14. Does he/she takes studies seriously
15. Is he /she ready to face challenges in life?

- OBSERVATION METHOD**: Report of subject's observation (share how he /she is in school / with friends /with parents according to your observation)(NEED TO BE APPROVED)

(Some pointers that can be taken into account while writing the case profile.)

- Subject`s relation with his/her sibling [your observation]
- Subject`s relation with his/her mother [your observation]
- Subject`s relation with his/her father [your observation]

- RATING SCALE/QUESTIONNAIRE/ ANY TOOL THAT ENHANCE YOUR CASE PROFILE ACCORDING THE TOPIC CHOSEN (SHOULD BE APPROVED)**

- USE OF ANY ONE PSYCHOLOGICAL TEST (SHOULD BE APPROVED)**

- PSYCHOLOGY : SYLLABUS FOR CYCLE TEST I**

- **CHAPTER 1 :VARIATIONS IN PSYCHOLOGICAL ATTRIBUTES**

BIOTECHNOLOGY

A. Revise all techniques of chapter RDT with diagrams and learn their applications.

B. Write brief notes on the following:

(1) i: RFLP Technique

ii: Blue- white Selection method of recombinants.

(2) In a dispute between two women A and B (for maternal relationship) , woman A claims to be the real mother of a child. Being a Biotechnologist , suggest , how would you solve the matter. You have insufficient DNA sample. How would you make a sufficient amount of DNA for the analysis .

(3) Design a strategy to select recombinant cells using Leu 2 gene in a vector.

(4) Explain Replica plating technique. Write its application in RDT.

- (5) Mention the important sequences/signals present in expression vectors.
C. Make a ppt or short video and project file on a topic related to biotechnology.

Syllabus for CT 1:

LS.1. Recombinant DNA Technology

BIOLOGY

QUES 1. Make a project file for BIOLOGY CBSE PRACTICAL EXAM with original photographs taken while performing the experiment. Guidelines for project

- Select a topic in Biology which has made you curious and put on your investigation cap.
- Do some research and design an appropriate experiment for the same.
- Collect the data and record it in the given format

1. Aim
2. Why I selected this project
3. Theory(Refer Books and internet for this)
4. Experiment
5. Data collection(case studies, Reports from hospitals)
6. Results
7. Conclusion
8. Bibliography

- Refer to the following sites for further information on how to carry out a investigatory project

www.Investigatoryprojectexample.com/microbiology/

www.scienceproject.com/projects/index/Senior/biology.asp

Ques2. Do the below given Assignments 1 and 2 in your Biology notebooks.

ASSIGNMENT 1

1 Mark Questions

- Q1. Mendel's work was rediscovered by three scientists independently. Name any two of them.
- Q2. How do we predict the frequency of crossing over between any two linked genes ?
- Q3. Why did Mendel select pea plant for his experiment?
- Q4. In a monohybrid cross the genotypic and phenotypic ratio is 1:2:1. What type of Inheritance is it example of? Give one example.
- Q5. If a human zygote has XXY sex chromosomes along with 22 pairs of autosomes. What sex will the individual be? Name the syndrome.
- Q6. Which of the following is a dominant & recessive trait in garden pea- tall stem, constricted pod.

2 Mark Questions

- Q7. A mother with blood group 'B' has a fetus with blood group 'A' father is 'A'. Explain the situations?

Q8. The genes for hemophilia are located on sex chromosome of humans. It is normally impossible for a hemophilic father to pass the gene to his son. Why?

Q9. Justify the situation that in human beings sex of the child is determined by father and not by mother?

Q10. What is trisomy? Give one example.

Q11. Differentiate between Genotype and Phenotype (2)

Q12. Distinguish between Complete and Incomplete linkage. (2)

3 Marks Questions

Q13. A man with AB blood group marries a woman with AB blood group.

- (i) Work out all possible genotypes & phenotypes of the progeny.**
- (ii) Discuss the kind of domination in the parents & progeny.**

Q14. Enumerate points to establish parallelism between chromosomes & genes.

Q15. What is 'Pedigree Analysis' ? What are the symbols generally used in it?

5 Marks Questions

Q16. A dihybrid heterozygous round, yellow seeded garden pea was crossed with a double recessive plant.

- (i) What type of cross is this ?**
- (ii) Work out the genotype & phenotype of the progeny.**
- (iii) What principle of Mendel is illustrated by it ?**

Q17. Describe the nature of inheritance of the ABO blood group in humans. In which ways does this inheritance differ from that of height of the plant in garden pea?

ASSIGNMENT 2

Q.1 Why did Mendel choose pea as experimental material?

Q.2 A woman with blood group O married a man with AB group. Show the possible blood groups of the progeny. List the alleles involved in this .

Q.3 A plant of *Antirrhinum magus* with red flowers was crossed with another plant of the same species with white flowers. The plants of F1 generation bore pink flowers. Explain the pattern of inheritance with the help of a cross.

Q.4 A tall Pea plant with yellow seeds (Heterozygous for both) is crossed with a dwarf Pea plant with green seeds. Using a punet square work out the cross to show the phenotypes and genotypes of F1 generation.

Q.5 A man with blood group A married a woman with B group. They have a son with AB blood group and daughter with blood group O. work out the cross and show the possibility of such inheritance.

Q.6 Differentiate between the following a) Dominance and recessive b) Homozygous and Heterozygous c) Monohybrid and dihybrid .

Q.7 Explain the following terms with examples a) Co-dominance b) incomplete dominance

Q.8 How is sex determined in human beings?

Q.9 Briefly mention the contribution of T.H. Morgan in genetics.

Q.10 Define and design a test cross.

Q.11 What is linkage? Under what condition the recombinants and the parental forms will be 50%.

Q.12 Which Mendel's law of inheritance is universally acceptable and without any exception? State the law.

Q.13a) In human's males are heterogametic and females are homogametic. Explain. Are there any examples (other than humans) where males are homogametic and females heterogametic.

b) Describe as to who determines the sex of an unborn child? Mention whether Temperature has a role in sex determination.

Q.14 What is linkage? Give different types of linkage. Explain with the help of example.

CHEMISTRY HOLIDAY HOMEWORK:

1. Complete the assignment given on 'Haloalkanes and Haloarenes' and 'p-block elements' in chemistry notebook.
2. Plan out an investigatory project based on any one of the following :
 - a) Titration
 - b) Salt analysis
 - c) Analysis of organic functional group

SYLLABUS FOR CYCLE TEST 1

1. p-Block Elements, Group 15 Elements
2. Haloalkanes and Haloarenes

PHYSICS

***Plan out an investigatory project on any one of the following topics :**

1. Electrostatics
2. Current Electricity
3. Magnetic effects and Magnetism
4. EMI and AC
5. Optics
6. Modern Physics
7. Electronics. (As per CBSE Syllabus 2021-22)

PREPARE FOR CYCLE TEST – 1

SYLLABUS –

Unit 1- Electrostatics

(Chapter 1 - Electric field and charges

Chapter 2- Electric potential and capacitance)

***Do the given below assignments in your school PHYSICS Register.**

ASSIGNMENT-1

Q1. Three small identical balls have charges $-3 \times 10^{-12}\text{C}$, $8 \times 10^{-12}\text{C}$ and $4 \times 10^{-12}\text{C}$ respectively. They are brought in contact and then separated. Calculate (i) charge on each ball (ii) number of electrons in excess or deficit on each ball after contact.

Q2. Two insulated charged spheres of charges $6.5 \times 10^{-7}\text{C}$ each are separated by a distance of 0.5m. Calculate the electrostatic force between them. Also calculate the force (i) when the charges are doubled and the distance of separation is halved. (ii) when the charges are placed in a dielectric medium water ($\epsilon_r = 80$)

Q3. Two small equal and unlike charges $2 \times 10^{-8}\text{C}$ are placed at A and B at a distance of 6 cm. Calculate the force on the charge $1 \times 10^{-8}\text{C}$ placed at P, where P is 4cm on the perpendicular bisector of AB.

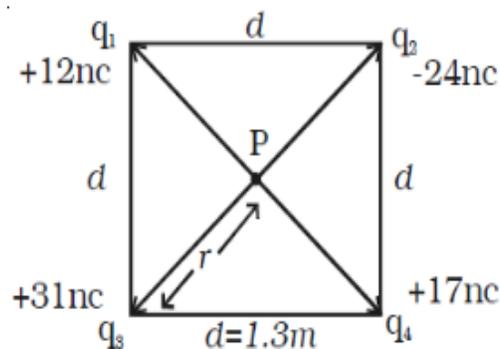
Q4. Compare the magnitude of the electrostatic and gravitational force between an electron and a proton at a distance r apart in hydrogen atom. (Given : $m_e = 9.11 \times 10^{-31}\text{ kg}$; $m_p = 1.67 \times 10^{-27}\text{ kg}$; $G = 6.67 \times 10^{-11}\text{ Nm}^2\text{ kg}^{-2}$; $e = 1.6 \times 10^{-19}\text{ C}$)

Q5. Two point charges $+9e$ and $+1e$ are kept at a distance of 16 cm from each other. At what point between these charges, should a third charge q to be placed so that it remains in equilibrium?

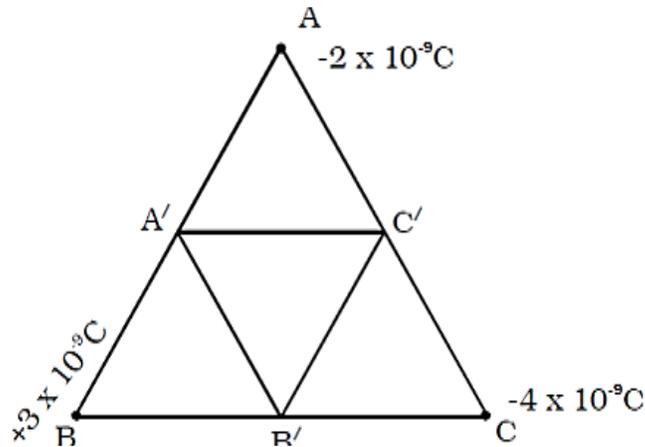
Q6. Two charges $4 \times 10^{-7}\text{ C}$ and $-8 \times 10^{-7}\text{C}$ are placed at the two corners A and B of an equilateral triangle ABP of side 20 cm. Find there resultant intensity at P.

Q7. Calculate (i) the potential at a point due a charge of $4 \times 10^{-7}\text{C}$ located at 0.09m away (ii) work done in bringing a charge of $2 \times 10^{-9}\text{ C}$ from infinity to the point

Q8. Calculate the electric potential at a point P, located at the center of the square of point charges shown in the figure.



Q9. Three charges $-2 \times 10^{-9}\text{C}$, $+3 \times 10^{-9}\text{C}$, $-4 \times 10^{-9}\text{C}$ are placed at the vertices of an equilateral triangle ABC of side 20 cm. Calculate the work done in shifting the charges A, B and C to A_1 , B_1 and C_1 respectively which are the mid points of the sides of the triangle.



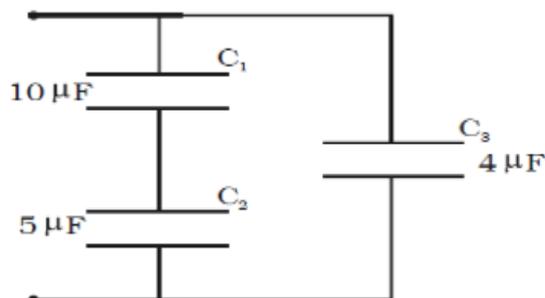
Q10. An infinite line charge produces a field of $9 \times 10^4 \text{ N C}^{-1}$ at a distance of 2 cm. Calculate the linear charge density.

Q11. A point charge causes an electric flux of $-6 \times 10^3 \text{ Nm}^2 \text{ C}^{-1}$ to pass through a spherical Gaussian surface of 10 cm radius centered on the charge. (i) If the radius of the Gaussian surface is doubled, how much flux will pass through the surface? (ii) What is the value of charge?

Q12. A parallel plate capacitor has plates of area 200 cm^2 and separation between the plates 1 mm. Calculate (i) the potential difference between the plates if 1 nC charge is given to the capacitor (ii) with the same charge (1 nC) if the plate separation is increased to 2 mm, what is the new potential difference and (iii) electric field between the plates

Q13. A parallel plate capacitor with air between the plates has a capacitance of 8 pF. What will be the capacitance, if the distance between the plates be reduced to half and the space between them is filled with a substance of dielectric constant 6.

Q14. Calculate the effective capacitance of the combination shown in figure



Q15. The plates of a parallel plate capacitor have an area of 90 cm^2 each and are separated by 2.5 mm. The capacitor is charged by connecting it to a 400 V supply. How much electrostatic energy is stored by the capacitor?

Q16. A glass rod rubbed with silk acquires a charge of $+8 \times 10^{-12}\text{C}$. The number of electrons it has gained or lost

- (a) 5×10^{-7} (gained) (b) 5×10^7 (lost)
(c) 2×10^{-8} (lost) (d) -8×10^{-12} (lost)

Q17. The electrostatic force between two point charges kept at a distance d apart, in a medium $\epsilon_r = 6$, is 0.3 N. The force between them at the same separation in vacuum is

- (a) 20 N (b) 0.5 N
(c) 1.8 N (d) 2 N

Q18. Electric field intensity is 400 V m^{-1} at a distance of 2 m from a point charge. It will be 100 V m^{-1} at a distance?

- (a) 50 cm (b) 4 cm
(c) 4 m (d) 1.5 m

Q19 Two point charges $+4q$ and $+q$ are placed 30 cm apart. At what point on the line joining them the electric field is zero?

- (a) 15 cm from the charge q (b) 7.5 cm from the charge q
(c) 20 cm from the charge $4q$ (d) 5 cm from the charge q

Q20. A dipole is placed in a uniform electric field with its axis parallel to the field. It experiences

- (a) only a net force (b) only a torque
(c) both a net force and torque (d) neither a net force nor a torque

Q21. If a point lies at a distance x from the midpoint of the dipole, the electric potential at this point is proportional to

- (a) $\frac{1}{x^2}$ (b) $\frac{1}{x^3}$
(c) $\frac{1}{x^4}$ (d) $\frac{1}{x^{3/2}}$

Q22. Four charges $+q$, $+q$, $-q$ and $-q$ respectively are placed at the corners A, B, C and D of a square of side a . The electric potential at the centre O of the square is

- (a) $\frac{1}{4\pi\epsilon_0} \frac{q}{a}$ (b) $\frac{1}{4\pi\epsilon_0} \frac{2q}{a}$
(c) $\frac{1}{4\pi\epsilon_0} \frac{4q}{a}$ (d) zero

Q23. Electric potential energy (U) of two point charges is

- (a) $\frac{q_1 q_2}{4\pi\epsilon_0 r^2}$ (b) $\frac{q_1 q_2}{4\pi\epsilon_0 r}$
(c) $pE \cos \theta$ (d) $pE \sin \theta$

Q24. The work done in moving $500 \mu\text{C}$ charge between two points on equipotential surface is

- (a) zero (b) finite positive
(c) finite negative (d) infinite

Q25. Which of the following quantities is scalar?

- (a) dipole moment (b) electric force
(c) electric field (d) electric potential

Q26. The unit of permittivity is

- (a) $C^2 N^{-1} m^{-2}$ (b) $N m^2 C^{-2}$
(c) $H m^{-1}$ (d) $N C^{-2} m^{-2}$

Q27. The number of electric lines of force originating from a charge of 1 C is

- (a) 1.129×10^{11} (b) 1.6×10^{-19}
(c) 6.25×10^{18} (d) 8.85×10^{12}

Q28. The electric field outside the plates of two oppositely charged plane sheets of charge density σ is.

- (a) $\frac{+\sigma}{2\epsilon_0}$ (b) $\frac{-\sigma}{2\epsilon_0}$
(c) $\frac{\sigma}{\epsilon_0}$ (d) zero

Q29. The capacitance of a parallel plate capacitor increases from 5 μf to 60 μf when a dielectric is filled between the plates. The dielectric constant of the dielectric is

- (a) 65 (b) 55
(c) 12 (d) 10

Q30. A hollow metal ball carrying an electric charge produces no electric field at points

- (a) outside the sphere (b) on its surface
(c) inside the sphere (d) at a distance more than twice

Q31 State Coulomb's law in electrostatics and represent it in vector form.

Q32 What is permittivity and relative permittivity? How are they related?

Q33 Explain the principle of superposition.

Q34 Define electric field at a point. Give its unit and obtain an expression for the electric field at a point due to a point charge.

Q35. Write the properties of lines of forces.

Q36. What is an electric dipole? Define electric dipole moment?

Q37 Derive an expression for the torque acting on the electric dipole when placed in a uniform field.

Q38. What does an electric dipole experience when kept in a uniform electric field and non-uniform electric field?

Q39. Derive an expression for electric field due to an electric dipole (a) at a point on its axial line (b) at a point along the equatorial line.

Q40. Define electric potential at a point. Is it a scalar or a vector quantity?

Obtain an expression for electric potential due to a point charge.

Q41. Distinguish between electric potential and potential difference.

Q42. What is an equipotential surface?

Q43. What is electrostatic potential energy of a system of two point charges? Deduce an expression for it.

Q44. Derive an expression for electric potential due to an electric dipole.

Q45 Define electric flux. Give its unit.

Q46. State Gauss's law. Applying this, calculate electric field due to (i) an infinitely long straight charge with uniform charge density (ii) an infinite plane sheet of charge of q .

Q47 What is a capacitor? Define its capacitance.

Q48 Explain the principle of capacitor. Deduce an expression for the capacitance of the parallel plate capacitor.

Q49 What is dielectric ? Explain the effect of introducing a dielectric slab between the plates of parallel plate capacitor.

Q50 A parallel plate capacitor is connected to a battery. If the dielectric slab of thickness equal to half the plate separation is inserted between the plates what happens to (i) capacitance of the capacitor (ii) electric field between the plates (iii) potential difference between the plates.

Q51 Deduce an expression for the equivalent capacitance of capacitors connected in series and parallel.

Q52 Prove that the energy stored in a parallel plate capacitor is $q^2/2C$.

Q53 What is meant by dielectric polarisation?

Q54 State the principle and explain the construction and working of Van de Graaff generator.

Q55 Why is it safer to be inside a car than standing under a tree during lightning?

ASSIGNMENT 2

Q1. The sum of two point charges is $6 \mu\text{C}$. They attract each other with a force of 0.9 N , when kept 40 cm apart in vacuum. Calculate the charges.

Q2. Two small charged spheres repel each other with a force of $2 \times 10^{-3} \text{ N}$. The charge on one sphere is twice that on the other. When one of the charges is moved 10 cm away from the other, the force is $5 \times 10^{-4} \text{ N}$. Calculate the charges and the initial distance between them.

Q3. Four charges $+q$, $+2q$, $+q$ and $-q$ are placed at the corners of a square. Calculate the electric field at the intersection of the diagonals of the square of side 10 cm if $q = 5/3 \times 10^{-9} \text{ C}$.

Q4. Two charges $10 \times 10^{-9} \text{ C}$ and $20 \times 10^{-9} \text{ C}$ are placed at a distance of 0.3 m apart. Find the potential and intensity at a point mid-way between them.

Q5 An electric dipole of charges $2 \times 10^{-10} \text{ C}$ and $-2 \times 10^{-10} \text{ C}$ separated by a distance 5 mm , is placed at an angle of 60° to a uniform field of 10 Vm^{-1} . Find the (i) magnitude and direction of the force acting on each charge. (ii) Torque exerted by the field. 1.46 An electric dipole of charges $2 \times 10^{-6} \text{ C}$, $-2 \times 10^{-6} \text{ C}$ are separated by a distance 1 cm . Calculate the electric field due to dipole at a point on its. (i) axial line 1 m from its centre (ii) equatorial line 1 m from its centre.

Q6. Two charges $+q$ and $-3q$ are separated by a distance of 1 m . At what point in between the charges on its axis is the potential zero?

Q7 Three charges $+1 \mu\text{C}$, $+3 \mu\text{C}$ and $-5 \mu\text{C}$ are kept at the vertices of an equilateral triangle of sides 60 cm . Find the electrostatic potential energy of the system of charges.

Q8 Two positive charges of $12 \mu\text{C}$ and $8 \mu\text{C}$ respectively are 10 cm apart. Find the work done in bringing them 4 cm closer, so that, they are 6 cm apart.

Q9. Find the electric flux through each face of a hollow cube of side 10 cm , if a charge of $8.85 \mu\text{C}$ is placed at the centre.

Q10. A spherical conductor of radius 0.12 m has a charge of $1.6 \times 10^{-7} \text{C}$ distributed uniformly on its surface. What is the electric field (i) inside the sphere (ii) on the sphere (iii) at a point 0.18 m from the centre of the sphere?

Q11. The area of each plate of a parallel plate capacitor is $4 \times 10^{-2} \text{sq m}$. If the thickness of the dielectric medium between the plates is 10^{-3}m and the relative permittivity of the dielectric is 7. Find the capacitance of the capacitor.

Q12 Two capacitors of unknown capacitances are connected in series and parallel. If the net capacitances in the two combinations are $6\mu\text{F}$ and $25\mu\text{F}$ respectively, find their capacitances.

Q13. Two capacitances $0.5 \mu\text{F}$ and $0.75 \mu\text{F}$ are connected in parallel and the combination to a 110 V battery. Calculate the charge from the source and charge on each capacitor.

Q14. Three capacitors are connected in parallel to a 100 V battery as shown in figure. What is the total energy stored in the combination of capacitor?

Q15. A parallel plate capacitor is maintained at some potential difference. A 3 mm thick slab is introduced between the plates. To maintain the plates at the same potential difference, the distance between the plates is increased by 2.4 mm. Find the dielectric constant of the slab.

Q16. A dielectric of dielectric constant 3 fills three fourth of the space between the plates of a parallel plate capacitor. What percentage of the energy is stored in the dielectric?

Q17. Find the charges on the capacitor shown in figure and the potential difference across them. 1.59 Three capacitors each of capacitance 9 pF are connected in series (i) What is the total capacitance of the combination? (ii) What is the potential difference across each capacitor, if the combination is connected to 120 V supply?

Q18 A sample of HCl gas is placed in an electric field of $2.5 \times 10^4 \text{N C}^{-1}$. The dipole moment of each HCl molecule is $3.4 \times 10^{-30} \text{C m}$. Find the maximum torque that can act on a molecule

ASSIGNMENT -3

1. State the principle of quantization of electrical charges.
2. What do you mean by relative permittivity? Write its relation in terms of force & electric field. Write its dimensions.
3. Define electric field intensity. Write its expression due to a point charge and find its dimension.
4. Draw electric field lines of an electric dipole. 5.
- Write three properties of Electric field lines. 6.
- Define electric dipole moment. What is its unit in SI system? 7.
- Derive an expression for the torque acting on an electric dipole placed in a uniform electric field and hence find its potential energy.
8. What do you mean by electric potential? Derive an expression for it due to a point charge.
9. Explain three properties of equipotential surfaces. 10.
- Define electric flux. How is it related to the charge enclosed? 11. State

Gauss's theorem and using it derive the expression for electric field due to a uniformly charged spherical shell

12. Write the

principle of a capacitor & derive expression for energy stored in a capacitor.

MATHEMATICS:

1. Do following previous year Board Questions(Ch3 Matrices &Ch4 Determinants)

1 Mark questions

1. Write the value of $\begin{vmatrix} \sin 20^\circ & \cos 20^\circ \\ \sin 70^\circ & \cos 70^\circ \end{vmatrix}$

2. If A is a square matrix of order 3 such that $|A| = \lambda$, then write the value of $|-A|$

3. For what value of x, the following matrix is singular?

$$\begin{bmatrix} 5-x & x+1 \\ 2 & 4 \end{bmatrix}.$$

4. . If $\begin{vmatrix} x+2 & 3 \\ x+5 & 4 \end{vmatrix} = 3$, then find the value of x.

5. Find the value of x from the following: $\begin{vmatrix} x & 4 \\ 2 & 2x \end{vmatrix} = 0$

6. If $A = \begin{bmatrix} 1 & 2 \\ 4 & 2 \end{bmatrix}$, then find the value of k if $|2A| = K|A|$

7. What positive value of x makes the following pair of determinants equal?

$$\begin{vmatrix} 2x & 3 \\ 5 & x \end{vmatrix}, \begin{vmatrix} 16 & 3 \\ 5 & 2 \end{vmatrix}$$

8. If $\begin{vmatrix} x+1 & x-1 \\ x-3 & x+2 \end{vmatrix} = \begin{vmatrix} 4 & -1 \\ 1 & 3 \end{vmatrix}$, then write the value of x.

9. Find equation of line joining (1, 2) and (3, 6) using determinants.

10. Determine the value of x for which the matrix $A = \begin{bmatrix} 1 & -2 & 3 \\ 1 & 2 & 1 \\ x & 2 & -3 \end{bmatrix}$ is singular?

11. If A is an invertible matrix of order 3 and $|A| = 5$, then find $|\text{adj } A|$.

12. If A is square matrix of order 3 such that $|\text{adj } A| = 64$, then find $|A|$.

13. If A is invertible matrix of 3x3 and $|A| = 7$, then find $|A^{-1}|$.

14. If A is a matrix of order 3x3, then find $(A^2)^{-1}$

15. Write the adjoint of the following matrix: $\begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$

16. Write A^{-1} for $A = \begin{bmatrix} 2 & 5 \\ 1 & 3 \end{bmatrix}$.

17. If a matrix has 12 elements, what are the possible orders it can have?

2 MARKS QUESTIONS

1. Find matrices X and Y, if $X + Y = \begin{bmatrix} 5 & 2 \\ 0 & 9 \end{bmatrix}$ and $X - Y = \begin{bmatrix} 3 & 6 \\ 0 & -1 \end{bmatrix}$.
2. Find the matrix X such that $2A - B + X = O$, where $A = \begin{bmatrix} 3 & 1 \\ 0 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} -2 & 1 \\ 0 & 3 \end{bmatrix}$.
3. If $A = \begin{bmatrix} 3 & -5 \\ -4 & 2 \end{bmatrix}$, show that $A^2 - 5A - 14I = O$.
4. If $f(x) = x^2 - 5x + 7$ and $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$, find $f(A)$.
5. If $A = \begin{bmatrix} 3 & -2 \\ 4 & -2 \end{bmatrix}$, find k so that $A^2 = kA - 2I$.

5 MARKS QUESTIONS

1. Using product $\begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix} \begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$ to solve the system of equations:

$$x - y + 2z = 1, 2z - 3z = 1, 3x - 2y + 4z = 2$$

2. If $A = \begin{bmatrix} 2 & -3 & 5 \\ 3 & 2 & -4 \\ 1 & 1 & -2 \end{bmatrix}$, then find A^{-1} and hence solve the following system of linear equations: $2x + 3y + z = 11, -3x + 2y - 4z = 4, 5x - 4y - 2z = -9$

3. If $A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$, then verify that $A^3 + 6A + 9A - 4I = 0$ and hence find A^{-1} .

4. 10 students were selected from a school on the basis of values for giving awards and were divided into three groups. The first group comprises hard workers, the second group has honest and law abiding students and the third group contains vigilant and obedient students. Double the number of students of the first group added to the number in the second group gives 13, while the combined strength of first and second group is four times that of the third group. Using matrix method, find the number of student in each group. Apart from the values, hard work, honesty and respect for law, vigilance and obedience, suggest one more value, which in your opinion, the school should consider for awards.

2. Complete questions from NCERT exemplar for Ch-3 Matrices .

3. SYLLABUS FOR FIRST UNIT TEST

- Ch-3 , Matrices
- Ch-4 , Determinants

COMPUTER SCIENCE

1. Prepare a presentation/ movie on any one of the following topics:
 - a. Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)
 - b. Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
 - c. Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves)
 - d. Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
 - e. Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)
 - f. Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP, wireless/mobile communication protocol such as GSM, GPRS and WLL
 - g. Mobile telecommunication technologies: 1G, 2G, 3G, 4G and 5G
 - h. Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting
2. Write program in python
 - a. Write a code to find the factorial of a natural number.
 - b. Write a code to find the sum of all elements of a list.
 - c. Write a code to compute the nth Fibonacci number.
 - d. Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).
 - e. Write a Python program to implement a stack and queue using list.
 - f. WAPP to accept a number from the user and display
 - i. Number of digits in the number
 - ii. Sum of all digits in the number
 - iii. Find whether the number is an armstrong number or not

Each of the above should be done using function sor each part

 - g. WAPP to accept a string from the user and find number of characters in it without using len function.
 - h. WAPP to do the following using functions :
 - i. Convert distance in meters to kiloeters
 - ii. Convert Temperature from degree fahrenheit to degree celsius
 - iii. Convert weight given in grams into kilograms
 - i. WAPP with functions SI and CI to calculate simple interest and compound interest.

INFORMATICS PRACTICES

1. **CREATE A PRESENTATION/ MOVIE/ APP USING :**
 - a. Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying,
 - b. Overview of Indian IT Act. E-waste: hazards and management.
 - c. Awareness about health concerns related to the usage of technology.
2. Create a pandas series from a dictionary of values and an ndarray
3. Given a Series, print all the elements that are above the 75th percentile.
4. Create a student table with the student id, name, and marks as attributes where the student id is the primary key.
5. Insert the details of a new student in the above table.
6. Delete the details of a particular student in the above table.
7. Use the select command to get the details of the students with marks more than 80.
8. Create a new table (order ID, customer Name, and order Date) by joining two tables (order ID, customer ID, and order Date) and (customer ID, customer Name, contact Name, country).
9. Create a foreign key in one of the two tables mentioned above
10. Find the min, max, sum, and average of the marks in a student marks table.
11. Find the total number of customers from each country in the table (customer ID, customer Name, country) using group by.
12. Create a new table (name, date of birth) by joining two tables (student id, name) and (student id, date of birth).
13. Write a SQL query to order the (student ID, marks) table in descending order of the mark

FASHION STUDIES

- **History of Fashion**

**Identify the cultural context of body adornment and its continuation in contemporary society.
(Prepare the write up with pictures as explained in the class)**

- **Elements of Fashion**

Design products (ONE SHEET) with self-generated prints inspired from nature. (STENCIL PRINTING) (METHOD EXPLAINED IN CLASS WITH PICTURES)

HINDUSTANI MUSIC VOCAL

Learn and write the following topics in your notebook:

- Alankar
- Meend
- Kan
- Aalaap
- Tana

Write a Drut khayal of your choice in the following ragas with two alaps and tanas in each:

- Raga Bhairav
- Raga Bageshree
- Raga Malkauns

Listen to any raga of the following artists and write down to which gharana they belong and what is the speciality of their singing:

- Ustad Faiyaz Khan
- Pt. Krishna Rao Shankar Pandit
- Ustad Bade Ghulam Ali Khan

Write the introduction and tala –notation of the following talas and practise them with hand beats:

- Roopak tala
- Jhap tala
- Dhamar tala