

PM SHRI KENDRIYA VIDYALAYA NO. 1 SAMBALPUR

HOLIDAY HOMEWORK (AUTUMN BREAK)

CLASS XI

ENGLISH CORE (301)

1. Revise all the lessons taught so far
2. Write the following in your English Notebook.
 - i) 5 Advertisements
 - ii) 3 Posters
 - ii) 3 Speeches
 - iv) 3 debates
3. Prepare one project Report on any ONE of the suggested topics given below:

Autumn Break Project Assignment

As part of the Autumn Break Holiday Homework, students of Class XI are required to complete a project on **one of the suggested topics** given below. The topics are based on the prescribed Class XI English texts and are designed to develop students' research skills, critical thinking, analytical writing, creativity and communication skills.

Students must complete the project during the autumn break and submit the project portfolio/report when the Vidyalyaya reopens.

Instructions for Preparing the Project Report

The project portfolio/project report must include the following components:

1. **Cover Page:** Title of the project, school name, class, subject and details of the student.
2. **Statement of Purpose / Objectives / Goals:** Clearly state the purpose and objectives of the project.
3. **Certificate of Completion:** A certificate stating that the project has been completed by the student under the guidance of the subject teacher.
4. **Action Plan:** Describe the step-by-step plan followed to complete the project.
5. **Relevant Photographs and Supporting Materials:** Include appropriate photographs, illustrations, newspaper clippings, charts, survey findings or other relevant materials.
6. **Essay / Report:** Prepare an analytical essay or report of **800-1,000 words** on the selected topic.
7. **Student Reflection:** Describe what you learnt, the challenges you faced and the insights gained during the project.

8. **List of Resources / Bibliography:** Mention the books, articles, reports, websites and other sources consulted while preparing the project.

General Guidelines

- Choose **one topic** from the list suggested below, as assigned or approved by the subject teacher.
- Use authentic and reliable sources of information.
- Present information in your own words and avoid copying content directly from websites or other sources.
- Connect the ideas explored in the project with the prescribed literary text.
- Analyse the information collected and draw meaningful conclusions.
- Maintain neatness, originality, proper organisation and grammatical accuracy.
- Include relevant visuals and supporting materials wherever appropriate.
- Be prepared to present and explain your project before the subject teacher.

Suggested Project Topics

1. **Ageing, Love and Companionship: The Changing Bond Between Generations**

Text connection: The Portrait of a Lady

2. **Memories, Loss and the Passage of Time: How Photographs Preserve Our Past**

Text connection: A Photograph

3. **Honesty, Integrity and Moral Values in a World of Temptations**

Text connection: The Summer of the Beautiful White Horse

4. **Nature and the Cycle of Life: The Beauty of Change and Renewal**

Text connection: The Laburnum Top

5. **The Trauma of Partition: Displacement, Loss and the Pain of Memories**

Text connection: The Address

6. **Courage, Teamwork and the Power of Positive Thinking in Times of Crisis**

Text connection: We're Not Afraid to Die... if We Can All Be Together

7. **Discovering the Past: How Archaeology and Modern Science Reveal History**

Text connection: Discovering Tut: The Saga Continues

8. **The Voice of Nature: Understanding the Water Cycle and the Importance of Environmental Conservation**

Text connection: The Voice of the Rain

9. **Gender Equality and Shared Responsibilities: Building a Respectful Family and Society**

Text connection: Mother's Day

10. **Science, Technology and Human Imagination: How New Discoveries Change Our Understanding of the World**

Text connection: The Adventure

11. **Childhood and the Search for Identity: Understanding the Journey from Innocence to Maturity**

Text connection: Childhood

12. The Importance of Family Values in a Changing Society

Text connection: The Portrait of a Lady

13. Environmental Awareness and Biodiversity: Why Protecting Nature Is Essential for Our Future

Text connection: The Laburnum Top and The Voice of the Rain

14. The Human Cost of War and Political Conflict: Displacement, Belonging and the Search for Home

Text connection: The Address

15. Resilience in Adversity: How Determination and Cooperation Help People Overcome Challenges

Text connection: We're Not Afraid to Die... if We Can All Be Together

Submission Instructions

- The project must be submitted in a neat, properly organised portfolio or project file.
- The report should be original and written in clear, grammatically correct English.
- All sources of information must be acknowledged in the bibliography.
- Students should ensure that the project is complete in all respects before submission.
- The project must be submitted to the subject teacher on the date announced by the Vidyalaya after the autumn break.

Best wishes for a productive and enriching autumn break!

Read, explore, reflect and express your ideas with originality.

पीएम श्री केंद्रीय विद्यालय क्रमांक 1संबलपुर

शरदकालीन गृह कार्य

कक्षा -11

विषय – हिन्दी

नोट – परियोजना कार्य A4 साइज पेपर में करें लगभग 20 पेज।

प्रश्न 1 पाठ्य पुस्तक 'आरोह' में दिये हुए, कवि एवं लेखकों तथा उनकी रचनाओं से संबंधित परियोजना कार्य लगभग 20 पेज में कीजिए।

प्रश्न 2 पाठ्य पुस्तक 'अभिव्यक्ति और माध्यम' में से 50 प्रश्न लघु उत्तरात्मक बनाकर उत्तर लिखिए ।

प्रश्न 3 शरदकालीन अवकाश में आप कहां-कहां घूमने गए,अपने अभिभावकों से जानकारी इकट्ठा कर रचनात्मक लेख लिखिए।

प्रश्न 4 औपचारिक एवं अनौपचारिक दोनों पत्र लिखिए।

प्रश्न 5 स्ववृत्त का प्रारूप लिखिए।

CLASS XII BUSINESS STUDIES

60 Important Six-Mark Questions – Board Examination Practice

CHAPTER 1 – NATURE AND SIGNIFICANCE OF MANAGEMENT

- Q1.** Explain any six characteristics of management.
- Q2.** Explain the three objectives of management.
- Q3.** Explain any six points highlighting the importance of management.
- Q4.** Explain the three levels of management and state the functions performed by each level.
- Q5.** Explain the meaning of coordination and discuss any five characteristics of coordination.
- Q6.** “Coordination is the essence of management.” Explain the statement.
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CHAPTER 2 – PRINCIPLES OF MANAGEMENT

- Q7.** Explain any six principles of management given by Henri Fayol.
- Q8.** Explain the following principles of management given by Fayol:
- (a) Unity of Command
 - (b) Unity of Direction
 - (c) Discipline
 - (d) Order
 - (e) Equity
 - (f) Esprit de Corps.
- Q9.** Explain any six techniques of Scientific Management given by F.W. Taylor.
- Q10.** Explain the following techniques of Scientific Management:
- (a) Functional Foremanship
 - (b) Standardisation and Simplification of Work
 - (c) Method Study
 - (d) Motion Study
 - (e) Time Study
 - (f) Differential Piece Wage System.
- Q11.** Explain any six principles of management which help in increasing organisational efficiency.
- Q12.** Differentiate between the principles of Fayol and Taylor on any six bases.
- Q13.** Explain the principle of “Division of Work”, “Authority and Responsibility” and “Unity of Command” as given by Henri Fayol.
- Q14.** Explain how the techniques of Scientific Management help in improving the efficiency of workers and the organisation.

CHAPTER 3 – BUSINESS ENVIRONMENT

- Q15.** Explain any six features of business environment.

Q16. Explain the importance of understanding business environment to a business enterprise.

Q17. Explain the different dimensions of business environment.

Q18. Explain how understanding of business environment helps an organisation in:

- (a) identifying opportunities and getting first mover advantage,
 - (b) identifying threats and early warning signals,
 - (c) tapping useful resources,
 - (d) coping with rapid changes,
 - (e) assisting in planning and policy formulation, and
 - (f) improving performance.
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CHAPTER 4 – PLANNING

Q19. Explain any six features of planning.

Q20. Explain the importance of planning in the management process.

Q21. Explain any six limitations of planning.

Q22. Explain the steps involved in the planning process.

Q23. Explain the different types of plans used in an organisation.

Q24. Distinguish between single-use plans and standing plans with suitable examples.

CHAPTER 5 – ORGANISING

Q25. Explain the importance of organising.

Q26. Explain the steps involved in the process of organising.

Q27. Explain the meaning and importance of delegation of authority.

Q28. Explain the three elements of delegation of authority.

Q29. Explain the importance of decentralisation in an organisation.

Q30. Distinguish between delegation and decentralisation on any six bases.

CHAPTER 6 – STAFFING

Q31. Explain the importance of staffing in an organisation.

Q32. Explain the steps involved in the staffing process.

Q33. Explain the various sources of recruitment.

Q34. Explain any six methods of external recruitment.

Q35. Explain the steps involved in the selection process.

Q36. Explain the importance of training and development of employees.

CHAPTER 7 – DIRECTING

Q37. Explain the importance of directing in an organisation.

Q38. Explain the different elements of directing.

Q39. Explain any six measures which can be used by a manager to motivate employees.

Q40. Explain Maslow's Need Hierarchy Theory of motivation.

Q41. Explain the meaning and importance of leadership.

Q42. Explain the different styles of leadership.

Q43. Explain the meaning, importance and elements of communication.

Q44. Explain any six barriers to effective communication and suggest suitable measures to overcome them.

CHAPTER 8 – CONTROLLING

Q45. Explain the importance of controlling in an organisation.

Q46. Explain the steps involved in the process of controlling.

Q47. Explain the relationship between planning and controlling.

Q48. Explain any six advantages of controlling.

Q49. Explain the meaning of controlling and discuss its importance in achieving organisational objectives.

Q50. Explain the various techniques of controlling used by management.

10 ADDITIONAL HIGH-FREQUENCY QUESTIONS

To make the set complete 60 questions

These additional questions cover themes that have been repeatedly tested in different forms and are useful for final board-examination revision.

Principles of Management

Q51. Explain the importance of principles of management.

Q52. Explain any six points which highlight the significance of Scientific Management.

Planning

Q53. Explain the relationship between planning and decision-making.

Organising

Q54. Explain the meaning of organisational structure and discuss the features of functional structure.

Q55. Explain the features and advantages of divisional structure.

Staffing

Q56. Distinguish between recruitment and selection on any six bases.

Q57. Explain the different types of training methods used for employees.

Directing

Q58. Explain the financial and non-financial incentives used for motivating employees.

Q59. Explain the process of communication in an organisation and state the importance of effective communication.

Controlling

Q60. Explain how controlling helps in achieving organisational goals and improving the efficiency of an organisation.

MOST IMPORTANT AREAS FOR FINAL REVISION

If time is limited, students should give special attention to these repeatedly tested areas:

1. **Functions, objectives and importance of management**
2. **Coordination – characteristics and importance**
3. **Fayol's principles of management**
4. **Taylor's Scientific Management techniques**
5. **Fayol vs Taylor**
6. **Features and importance of business environment**
7. **Dimensions of business environment**
8. **Features, importance and limitations of planning**
9. **Steps of planning**
10. **Types of plans**
11. **Steps in organising**
12. **Delegation – elements and importance**
13. **Delegation vs decentralisation**
14. **Staffing process**
15. **Sources of recruitment**
16. **Selection process**
17. **Training and development**
18. **Elements and importance of directing**
19. **Maslow's Need Hierarchy Theory**
20. **Leadership styles**
21. **Communication and its barriers**

- 22. **Motivation and incentives**
- 23. **Steps of controlling**
- 24. **Importance of controlling**
- 25. **Relationship between planning and controlling**

PART-II

CLASS XII BUSINESS STUDIES

40 IMPORTANT SIX-MARK QUESTIONS

Financial Management | Financial Markets | Marketing Management | Consumer Protection

Question Type: Direct questions

Marks: 6 marks each

Focus: Previous-year board examination themes and frequently repeated concepts

CHAPTER 9 – FINANCIAL MANAGEMENT

10 Important Questions

- Q1.** Explain the three major financial decisions taken by a finance manager.
- Q2.** Explain any six factors affecting the investment decision of a company.
- Q3.** Explain any six factors affecting the financing decision of a company.
- Q4.** Explain any six factors affecting the choice of capital structure of a company.
- Q5.** Explain any six factors affecting the dividend decision of a company.
- Q6.** Explain any six factors affecting the working capital requirements of a business.
- Q7.** Explain any six factors affecting the fixed capital requirements of a business.
- Q8.** Explain the meaning of financial management and state its objectives.
- Q9.** Explain the concept of capital structure and state any five factors affecting the choice of capital structure.
- Q10.** Explain the relationship between investment decision, financing decision and dividend decision in financial management.

★ High-priority recurring areas:

- Financing decision and its factors
- Capital structure and its factors
- Working capital requirements
- Fixed capital requirements
- Dividend decision

- Three financial decisions

Questions on capital structure and working-capital factors have appeared repeatedly in recent PYQ compilations, including six-mark formats.

CHAPTER 10 – FINANCIAL MARKETS

10 Important Questions

- Q11.** Explain any six functions of financial markets.
- Q12.** Distinguish between the money market and capital market on any six bases.
- Q13.** Distinguish between the primary market and secondary market on any six bases.
- Q14.** Explain any six instruments of the money market.
- Q15.** Explain any six features of the capital market.
- Q16.** Explain any six functions of a stock exchange.
- Q17.** Explain any six functions performed by the Securities and Exchange Board of India (SEBI).
- Q18.** Explain the protective, regulatory and developmental functions of SEBI.
- Q19.** Explain the importance of financial markets in the economic development of a country.
- Q20.** Distinguish between the money market and capital market and explain the instruments traded in each market.

★ High-priority recurring areas:

- Primary Market vs Secondary Market
- Money Market vs Capital Market
- Functions of Stock Exchange
- Functions of SEBI
- Protective, regulatory and developmental functions of SEBI
- Money-market instruments

The distinction between **primary and secondary markets** and between **money and capital markets** has been repeatedly tested in CBSE material/PYQ collections.

CHAPTER 11 – MARKETING MANAGEMENT

10 Important Questions

- Q21.** Explain the meaning and functions of marketing.
- Q22.** Explain any six features of a good brand name.
- Q23.** Explain the concept of marketing mix and discuss its four elements.
- Q24.** Explain any six factors affecting the price determination of a product.

Q25. Explain the various methods of pricing a product.

Q26. Explain any six functions of packaging.

Q27. Explain the various functions of labelling.

Q28. Explain the various components of the promotion mix.

Q29. Explain the advantages and limitations of advertising as a promotional tool.

Q30. Explain the meaning of personal selling and discuss the qualities of a good salesperson.

★ **High-priority recurring areas:**

- Marketing mix – **4 Ps**
- Factors affecting price
- Promotion mix
- Advertising
- Personal selling
- Packaging
- Labelling
- Branding

The **4 Ps of marketing mix** and factors affecting price are among the recurring six-mark themes in CBSE-oriented question sets.

CHAPTER 12 – CONSUMER PROTECTION

10 Important Questions

Q31. Explain any six importance of consumer protection from the point of view of consumers.

Q32. Explain any six importance of consumer protection from the point of view of business.

Q33. Explain the rights of consumers under the Consumer Protection Act, 2019.

Q34. Explain any six responsibilities of consumers.

Q35. Explain the meaning of consumer protection and discuss the role of consumer organisations and NGOs in protecting consumers.

Q36. Explain the various reliefs available to a consumer under the Consumer Protection Act, 2019.

Q37. Explain the three-tier consumer dispute redressal machinery established under the Consumer Protection Act, 2019.

Q38. Explain the role of consumer organisations and NGOs in protecting the interests of consumers.

Q39. Explain the right to safety, right to be informed, right to choose, right to be heard, right to seek redressal and right to consumer education.

Q40. Explain any six ways through which a consumer can protect himself/herself against exploitation in the market.

★ **High-priority recurring areas:**

- Consumer rights
- Consumer responsibilities
- Importance of consumer protection
- Reliefs available to consumers
- Consumer dispute redressal machinery
- Role of consumer organisations and NGOs

Consumer rights, responsibilities and reliefs continue to feature prominently in CBSE question material; recent CBSE-linked material includes six-mark questions on consumer rights and reliefs.

🔥 **TOP 20 QUESTIONS FOR LAST-MINUTE REVISION**

If students have limited time, these 20 questions should receive **special attention**:

Financial Management

1. Explain the three major financial decisions.
2. Explain factors affecting financing decisions.
3. Explain factors affecting choice of capital structure.
4. Explain factors affecting working capital requirements.
5. Explain factors affecting dividend decisions.

Financial Markets

6. Differentiate between Primary Market and Secondary Market.
7. Differentiate between Money Market and Capital Market.
8. Explain functions of SEBI.
9. Explain protective, regulatory and developmental functions of SEBI.
10. Explain functions of stock exchange.

Marketing Management

11. Explain the four elements of Marketing Mix.
12. Explain factors affecting price determination.
13. Explain components of Promotion Mix.
14. Explain functions of packaging.
15. Explain functions of labelling.

Consumer Protection

16. Explain the rights of consumers.
17. Explain the responsibilities of consumers.
18. Explain the importance of consumer protection from the point of view of business.
19. Explain the reliefs available to consumers.
20. Explain the role of consumer organisations and NGOs.

XI-ACCOUNTANCY-AUTUMN BREAK

HOMEWORK

Q.NO	STATEMENT	M
1	Which of the following describes 'Qualitative characteristic understandability' in the best manner? (a) Decision makers must interpret the information in the same sense as it was described to them (b) Accounting reports must be of common period (c) Information must be available in time. (d) None of the above. OR It is process of grouping the transactions of one nature at one place so to put information in compact and usable form.. a. Recording b. Classifying c. Summarizing d. Interpretation of results	1
2	Assertion (A) The goods supplied from Chennai to Lucknow would fetch Integrated GST. Reason (R) Integrated GST is levied in the course of inter-state supply of goods and services. (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A) (c) Assertion (A) is false, but Reason (R) is true (d) Assertion (A) is true, but Reason (R) is false.	1

3	Assertion (A): current liabilities refers to those liabilities which are to be paid in near future normally within 1 month Reason (R): current liabilities include bank overdraft, creditors, outstanding expenses etc. a. Both assertion and reason are correct and reason is correct explanation of assertion b. Both assertion and reason are correct but reason is not the correct explanation of assertion c. Assertion is correct but reason is not correct d. Assertion is wrong but reason is correct	1
4	Assertion (A) Book keeping involves summarizing the classified transactions in the form of profit and loss account and balance sheet. Reason (R) Book keeping is an art of recording in books of accounts, the monetary aspect of commercial or financial transactions. It is concerned with record keeping maintenance of books of accounts. (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A) (c) Assertion (A) is false, but Reason (R) is true (d) Assertion (A) is true, but Reason (R) is false OR	1

	On 31st March 31, 2022 after sale of goods worth ₹2,000, there is closing stock of ₹10,000. This is: (a) An event (b) A transaction (c) A transaction as well as event (d) Neither a transaction nor an event	
5	For which of the following transactions, assets and capital will decrease by same amount? (a) Goods sold for cash (b) Fixed asset purchased on credit (c) Depreciation provided on fixed assets (d) Goods sold for cash at a profit. OR Assertion (A) All credit purchases of goods are recorded in the purchases journal. Reason (R) Cash purchases of goods are recorded in cash book. (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A) (c) Assertion (A) is false, but Reason (R) is true (d) Assertion (A) is true, but Reason (R) is false.	1

12	As per straight line method of Depreciation, the amount of depreciation per year will be: (a) Increase every year (b) Decrease every year (c) Unchanged (d) None of the these	1
13	Raman purchases goods worth sixty thousand rupees from Suresh on credit. But some of those goods are damaged. Which of the following documents would Raman return to Suresh along with the damaged goods? a) Debit note. b) Purchase invoice. c) Sales invoice. d) Sales returns invoice.	1
14	Assertion (A):Purchase account is credited when the proprietor withdrawal goods from the business for his personal use. Reason (R):Purchase account is credited because as a result of withdrawal of goods, net amount of purchase of the business is reduced. Alternatives: a) Both (A) and (R) are correct, and (R) is the correct explanation of (A). b) Both (A) and (R) are correct, but (R) is not the correct explanation of (A). c) (A) is correct but (R) is wrong. d) Both (A) and (R) are incorrect.	1
15	Two or more transactions relating to one particular account take place on the same date. In such cases, instead of passing separate entries for all such transactions, only one entry is passed. Such a Journal entry is termed as	1
16	The following balances appeared in the books of Gopal on 1st April, 2023: Assets: Cash ₹8,000; Bank Balance ₹20,000; Stock ₹54,000; Debtors ₹47,000; Machinery ₹60,000. Liabilities: Sundry Creditors ₹20,000, Capital ₹2,00,000. The Opening Entry will.....	1
17	Given below are two statements, one labelled as Assertion (A) and other labelled as Reason (R) : Which one of the following is correct? Codes: (A) Both (A) and (R) are true and (R) is the correct explanation of (A). (B) Both (A) and (R) are true but (R) is not the correct explanation of (A). (C) (A) is true, but (R) is false. (D) (A) is false, but (R) is true. Assertion (A):The balance of an account is always known by the side which is in excess. Reason (R):If total of Dr. side of Prisha's A/c in the ledger is ₹50,000 and total of Cr. side of her A/c is ₹60,000 then her account will show a Cr. balance of ₹10,000.	1
18	Fill in the blanks by choosing the appropriate words from those written in parentheses :	1

	1. Ledger account gives the folio of (Journal; Ledger) 2. Cash sales to Ram will be posted to side of account. (Debit, Credit; Ram, Sales)	
19	Assertion (A):The cash basis of accounting is that accounting which records only cash transactions, i.e. only those incomes and expenses are recorded which have been received and paid in cash respectively. Thus, the cash basis of accounting violates GAAP. Reason (R): The cash basis of accounting makes a distinction between capital and revenue items. a) Both A and R are true and R is the correct explanation of A. b) Both A and R are true but R is not the correct explanation of A. c) A is true but R is false.	1

	d) A is false but R is true.	
20	A fixed tangible asset becomes useless or unwanted due to new invention, it is termed as: (a) Amortization (b) Obsolescence (c) Depletion (d) None of these	1
21	Why Petty Cash Book is prepared? OR What do you mean by an asset and what are different types of assets?	3
22	Shyam started a business of selling organic grains. He invested ₹5,00,000 and took a loan of ₹2,00,000 from a bank. He bought goods worth ₹3,00,000 and paid rent of ₹20,000. At the end of the year, the value of stock was ₹50,000. Ravi wants to show his personal house, worth ₹40,00,000, in the business books Q1. Which accounting principle should Shyam follow while deciding whether to include his house in the business books? Q2. Which accounting assumption is followed when Shyam records only financial transactions in the books? Q3. Shyam wants to change the method of inventory valuation every year. Which concept is being violated?.	3
23	Enter the following transactions into the Ledger Accounts of Cash. (a) Business started with cash of Rs. 2, 00,000 and Furniture Rs. 50,000. (b) Goods of list price Rs. 50,000 bought from Sudhir traders at 20% trade discount with 12% IGST. (c) Cash sales of Rs. 3,000 at 5% cash discount. (d) Cash of Rs. 20,000 paid to Sudhir traders after 2% cash discount. (e) Goods of list price Rs.20, 000 bought after 10% trade discount from Vijay in cash. (f) Goods of Rs.5, 000 and Cash of Rs. 3,000 withdrawn by owner for personal use.	3
24	ABC Enterprises maintains a Petty Cash Book under the imprest system with an imprest amount of ₹5,000. During the week ending June 7, 2025, the petty cashier incurred the following expenses: June 1: Stationery ₹500 June 2: Postage ₹300 June 3: Conveyance ₹700 June 4: Refreshments ₹400 June 5: Miscellaneous expenses ₹600 Prepare an Analytical Petty Cash Book for the week ending June 7, 2025. Or Mohan Enterprises, a GST-registered dealer, purchased goods worth ₹1,00,000 and paid GST @12% (i.e., ₹12,000). It then sold these goods to Ramesh Traders for ₹1,50,000,	3

	charging GST @12% (i.e., ₹18,000). Later, Ramesh Traders sold the goods to a final consumer for ₹1,60,000 and charged GST @12%. Answer the following questions based on the above case: Q1. How much GST is payable by Mohan Enterprises to the Government after adjusting Input GST? Q2. Identify and explain the characteristic of GST that allows Mohan Enterprises to set off GST paid on purchases against GST collected on sales. Q3. Why is GST collected by Mohan Enterprises not treated as income?	
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25	Enter the following transactions in the purchase book of VXM Garments of Gwalior, Madhya Pradesh, assuming CGST @6% and SGST@6%.: 2018 April 4 Purchased from RK & Bros, Indore of Madhya Pradesh 100 Meter Cotton Cloth @200 per Meter 80 Meter Woolen Cloth @₹500 per meter April 12 Purchased from SK & co. of Patna Bihar 50 Meter Silk Cloth @600 per Meter 40 Meter Cotton Cloth @₹250 per Meter Trade Discount 10% April 20 Purchased from Fashion Furniture House, Delhi. 10 Chairs @ ₹2,000 per Chair April 25 Purchased from Shubham & Bros of West Bengal for cash, 100 Meter Woolen Cloth @ ₹600 per Meter Trade Discount is 15% and Freight Charges payable are ₹3,000	3
26	From the following Transactions, State the Nature of account and State which account will be debited and Which account credited: (i) Manu started business with cash – ₹ 1,00,000 (ii) He purchased furniture for business – ₹ 20,000 (iii) Purchase goods on credit from Anshul – ₹ 6,000 (iv) Paid to his creditor, Anshul – ₹ 2,000 (v) Paid salary to his clerk – ₹ 1,000 (vi) Received Interest – ₹ 200	3
27	Identify and explain the principles of accounting involved in the following cases: - The calibre and quality of the manager is not disclosed in the balance sheet. - Advanced received from customers is not taken as income or sales. - Revenue must be recorded when it is realised and expenses are recorded when incurred. - A business for which financial statements are prepared is separate and distinct from the owner of the entity.	4

28	Mrs. Bhardwaj provides the following information for the year ended 31st March, 2023:		4
	Particulars	Amount (₹)	
	Cash Sales	2,80,000	
	Credit Sales	5,10,000	
	Cash Purchases	4,60,000	
	Credit Purchases	1,50,000	
	Salary Paid	80,000	
	Salary Outstanding	12,000	
	Rent Paid for 11 months	55,000	
	Insurance Expenses Paid	24,000 (includes ₹18,000 prepaid)	
	Income Received in Advance	6,000	
	Income Earned but not Received	2,000	

	Income Received (excluding advance) 10,000 Required : Calculate the profit or loss for the year using: (i) Cash Basis of Accounting (ii) Accrual Basis of Accounting Or Calculate the amount of depreciation and depreciation rate from the following by using 'Straight line method'. Also give journal entries for the first two years. The books are closed on 31st December every year. January 1, 2023 Payment to vendor for purchase of machinery ₹ 1,40,000 January 1, 2023 Transportation cost ₹1,000 January 1, 2023 Installation cost ₹ 9,000 Estimated scrap value at the end of life ₹ 45,000.	
--	--	--

29	Show an Accounting Equation for the following transactions: (i) D. Mahapatra commenced business with cash ₹ 50,000 and ₹ 1,00,000 by cheque; goods ₹ 60,000; machinery ₹ 1,00,000 and furniture ₹ 50,000. (ii) 1/3rd of above goods sold at a profit of 10% on cost and half of the payment is received in cash. (iii) Depreciation on machinery provided @ 10%. (iv) Cash withdrawn for personal use ₹ 10,000. (v) Interest on drawings charged @ 5%. (vi) Goods Sold to Gupta for ₹ 10,000 and received a Bill Receivable for the same amount for 3 months. (vii) Received ₹ 10,000 from Gupta against the Bills Receivable on its maturity	4
30	From the following particulars, prepare a Bank reconciliation statement in the books of Shri Jindal as on 30th June, 2024. His bank passbook showed a balance of ₹15000: - - Before the date he had issued cheque amounting to ₹ 8000, of which cheques amounting to ₹ 3200 have so far been presented for payment. - A cheque of ₹ 3000 paid by him into the bank on 20th June, cheque of ₹ 800 credited up to 30th June. - He had also received a cheque for ₹ 500 which although entered by him in the bank column cash book, was omitted to be paid into the bank. - On 30th June a cheque for ₹1570 received by him was paid into the bank but the same was omitted to be entered in the cash book. - There was a credit of ₹ 150 for interest on current account and a debit of ₹ 25 for bank charges.	6
31	Pass Journal entries with format in the books of Jyoti furniture house, New Delhi : - Goods of Rs. 50,000 purchased from Mohan at 20% trade discount with IGST 12%. - Goods worth Rs. 5,000 lost by fire and insurance company accepted claim for Rs. 4,000. - Cheque of Rs. 5,500 received from customer Muskan and not deposited on the same day. - Debtors of Rs. 10,000 becomes insolvent and could pay only 60 paise in a rupee - Jyoti furniture bought Plant and Machinery of Rs. 1,00,000 at 20% trade discount and amount paid by cheque along with freight charges Rs. 10,000 and installation charges Rs. 10,000(paid in cash) - Depreciate furniture by 10% p.a (furniture book value is Rs. 12,000). OR Pass Journal entries of Gurman for the following transactions: (i) Purchased goods from Sanjeev of ₹ 40,000 less 10% Trade Discount plus CGST and SGST 9% each.	6

	(ii) Purchased goods from Vijay of 60,000 less 10% Trade Discount plus CGST and SGST 9% each. Paid ½ amount by cheque. (iii) Sold goods to Bhuwan for 40,000 less 10% Trade Discount plus IGST@18%. (iv) Sold goods to Varun for ₹ 50,000 less 10% Trade Discount plus CGST and SGST @9% each. Received cheque for the amount after cash discount at 3%.	
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32	Explain the following concepts/ principles : (a) Conservatism. (b) Matching Principle (c) Revenue recognition principle OR Explain the following concepts/ Principles: (a) Business Entity concept (b) Materiality (c) Full disclosure.	6
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33	Q.6 From the following information, prepare a Trial Balance of M/s. Prayag for the year ended 31st March, 2019: <table> <tr> <td>Capital Accounts</td><td>₹ 1,25,000</td><td>Sales</td><td>₹ 1,54,500</td></tr> <tr> <td>Furniture and Fittings</td><td>6,400</td><td>Bank (Cr. Balance)</td><td>28,500</td></tr> <tr> <td>Motor Car</td><td>62,500</td><td>Purchase Returns</td><td>1,250</td></tr> <tr> <td>Buildings</td><td>75,000</td><td>Commission (Cr.)</td><td>3,750</td></tr> <tr> <td>Total Debtors</td><td>38,000</td><td>Sales Return</td><td>2,000</td></tr> <tr> <td>Total Creditors</td><td>25,000</td><td>Advertisement</td><td>2,500</td></tr> <tr> <td>Bad Debts</td><td>1,250</td><td>Interest Account (Dr.)</td><td>1,180</td></tr> <tr> <td>Stock (1st April 2018)</td><td>34,600</td><td>Cash Balance</td><td>6,500</td></tr> <tr> <td>Purchases</td><td>54,750</td><td>Insurance and Taxes</td><td>12,500</td></tr> <tr> <td>Input IGST A/c</td><td>3,000</td><td>Salaries</td><td>40,820</td></tr> <tr> <td>Output CGST A/c</td><td>1,500</td><td>Output SGST A/c</td><td>1,500</td></tr> </table>	Capital Accounts	₹ 1,25,000	Sales	₹ 1,54,500	Furniture and Fittings	6,400	Bank (Cr. Balance)	28,500	Motor Car	62,500	Purchase Returns	1,250	Buildings	75,000	Commission (Cr.)	3,750	Total Debtors	38,000	Sales Return	2,000	Total Creditors	25,000	Advertisement	2,500	Bad Debts	1,250	Interest Account (Dr.)	1,180	Stock (1st April 2018)	34,600	Cash Balance	6,500	Purchases	54,750	Insurance and Taxes	12,500	Input IGST A/c	3,000	Salaries	40,820	Output CGST A/c	1,500	Output SGST A/c	1,500	6
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34	On 1st April 2017, Chandani Ltd. purchased a machine for ₹ 2, 40,000 and spent ₹ 10,000 on its erection. On 1st October, 2017, an additional machinery costing ₹.1, 00,000 was purchased. On 1st October, 2019, the machine purchased on 1st April, 2017 was sold for ₹ 1, 43,000 and on the same date, a new machine was purchased at a cost of ₹ 2, 00,000. Show the machinery account for the first three financial years after charging depreciation at 5% p.a.by straight line method. OR A firm purchased on 1st April 2015 certain machinery for ₹ 58,200 and spent ₹ 1,800 on its erection. On 1st October 2015 additional machine costing ₹.20, 000 was purchased. On 1st October 2017, the machinery purchased on 1st April 2015 having become obsolete was sold for ₹.28, 600 and on the same date new machinery was purchased for ₹ 40,000. Prepare Machinery account for three years by providing depreciation @ 10% p.a. on written down value method on 31st March every year.	6																																												

HOLIDAY HOME WORK
CLASS- 11 ECONOMICS
MCQs

1. Which of the following problem is not related to the problem of allocation of resources of the economy?
What to produce?
Where to produce?
For whom to produce?
How to produce?
2. Which of the following problem is related to the problem of choice of method of production?
What to produce?
Where to produce?
For whom to produce?
How to produce?
3. How does the marginal utility changes, when total utility diminishes?
Marginal utility increases
Marginal utility decreases
Marginal utility becomes zero
Marginal utility becomes negative
4. The prices of the two goods Y and X that a consumer consumes are Rs 10 and Rs 8 respectively, What will be the slope of the price line?
10/8
10/10
8/8
8/10
5. Which of the following is not a cause of rightward shift of demand curve?
Rise in the price of substitute goods
Rise in the price of complementary goods
increase in the taste and preference of the consumer
increase in the number of consumer
6. In which of the following situation the demand for the commodity is highly elastic?
The demand for salt
The demand for cigarette for a smoker
The demand for an AC car
The demand for food
7. What is the shape of the demand curve in case of unitary elasticity of demand?
Demand curve is horizontal to x-axis
Demand curve is vertical to y-axis
Demand curve is rectangular hyperbola
Demand curve flatterly slope downward to the right
8. What will be the value of Marginal Product and Average Product, When Average product is maximum?
MP = AP
MP > AP
MP < AP
All of the above
9. In which time period the producer cannot increase the amount of output?
Short period

- Long period
 - Market period
 - All of the above
10. Which of the following is/ are a cause/causes for downward sloping of demand curve?
- The effect of law of diminishing marginal utility
 - The substitution effect
 - The income effect
 - All of the above
11. Which of the following is a positional average?
- Arithmetic Mean
 - Geometric Mean
 - Harmonic Mean
 - Mode
12. Which of the following is/ are a feature/features of an ideal average?
- Simple to calculate.
 - It should be easy to understand.
 - Rigidly defined.
 - All of the above
13. What will be the mean of the values a series?
- X- 4 8 6 9 7 5
- 7.5
 - 6.5
 - 8.5
 - 5.5
14. If the data of a series are classified on the basis of geographical location than what type of classification is it?
- Spatial classification
 - Chronological classification
 - Quantitative classification
 - None of the above
15. The mid value of class is 30, if the lower limit is 15 then what will be the value of upper limit?
- 40
 - 45
 - 50
 - 55
16. Which of the following of data are both first hand and original data?
- Primary data
 - Secondary data
 - Both are correct
 - None of them

17. The type of sampling in which few items are selected on the basis of some purpose_____

- Random sampling
- Quota sampling
- Purposive sampling
- Stratified sampling

18. It is the difference between sample value and actual value of a characteristic of a population

- Non-sampling error
- Sampling error
- Statistical error
- Non- statistical error

19. Which of the following is not a feature of statistics in plural sense?

- Aggregate of facts
- Affected by multiplicity of causes
- Analysis of data
- Accuracy of data

20. Which of the following is/are feature/features of statistics in singular sense?

- Collection of data
- Presentation of data
- Interpretation of data
- All of the above

21. How are marginal utility and total utility related?

22. How does a consumer attain equilibrium in case of a single commodity?
Explain with the help of a numerical schedule.

23. Explain the problem 'What to produce?'

24. Differentiate between change in demand and change in quantity demanded.

25. Explain the law of demand with the help of a numerical example.

26. A consumer purchase 400 units of a commodity at a price Rs50 per unit. If the price falls by 20%, he purchase 600 units. Calculate the elasticity of demand.

27. Why does the demand curve slope downward to the right?

28. How does a consumer reach at equilibrium through IC analysis? Explain with the help of a diagram.

29. Explain the following features of indifference curve.
- a- Two indifference curves never intersect each other.
 - b- Indifference curve is convex to the origin.

PM SHRI KENDRIYA VIDYALAYA NO.01 SAMBALPUR

AUTMN BREAK (2026-27) HOMEWORK

CLASS: XI

SUBJECT : MATHEMATICS

INSTRUCTIONS: Do all these questions in a separate file (A-4 sheets)

SETS

1. Write down all possible subsets of sets $\{1,2\}$
2. Write down all possible subsets of sets $\{a,b,\{c\}\}$
3. Write number proper subset of a set having six elements.

Write the following sets in set builder form (Question 5 to Question 8)

4. $A = \{5, 10, 15, 20, 25\}$
5. $B = \{5, 25, 125, 625, 3125\}$
6. $C = \{2, 5, 10, 17, 26\}$
7. $D = \{1/2, 2/3, 3/4, 4/5, 5/6\}$
8. $E = \{1/2, 2/5, 3/10, 4/17, 5/26\}$

Write the following sets in roaster form (Question 10 to Question 12)

9. $A = \{x: x \in \mathbb{Z}, x^2 < 25\}$
10. $B = \{x: x \text{ is a letter of the word "principal"}\}$
11. $C = \{x: x \text{ is a two digit natural number such that sum of its digit is 8}\}$
12. $D = \{x: x \text{ is a natural number and divisor of 36}\}$
13. For $A = \{1, 2, 3, 4, 5, 6\}$; $B = \{3, 4, 5, 6\}$, $C = \{4, 5, 7, 8\}$ and $U = \{1, 2, \dots, 8\}$

Find (a) $(A - B)'$, (b) A'

14. For $A = \{1, 2, 3, 4, 5, 6\}$; $B = \{3, 4, 5, 6\}$, $C = \{4, 5, 7, 8\}$ and $U = \{1, 2, \dots, 8\}$

Verify that (1) $(A \cup B)' = A' \cap B'$;

$$(2) (A \cap B)' = A' \cup B'$$

15. For $A = \{1, 2, 3, 4, 5, 6\}$; $B = \{3, 4, 5, 6\}$, $C = \{4, 5, 7, 8\}$ and $U = \{1, 2, \dots, 8\}$

- Verify that (1) $A - (B \cup C) = (A - B) \cap (A - C)$
 (2) $A \cap (B - C) = (A \cap B) - (A \cap C)$

16. A and B are two sets such that $n(A) = 3$ and $n(B) = 6$

Find (1) minimum value of $n(A \cup B)$ (2) maximum value of $n(A \cap B)$.

17. Let A, B and C be 3 sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$ show $B = C$.

18. If $A \subset B$ show that $(C - B) \subset C - A$

19. If $A \subset B$ and $B \subset C$, is it true that $A \subset C$, Explain giving example.

20. Find $A \cup B$ and $A \cap B$ if $A = \{x : x \in \mathbb{Z} \text{ and } x^2 \leq 36\}$, $B = \{x : x \text{ is a prime natural number whose square is } < 50\}$

RELATIONS AND FUNCTIONS

1. If $A = \{2, 3\}$, $B = \{1, 2, 3, 4\}$ and $C = \{3, 4, 5, 6\}$ verify that
 (i) $A \times (B \cap C) = (A \times B) \cap (A \times C)$ (ii) $A \times (B \cup C) = (A \times B) \cup (A \times C)$
2. If $A = \{1, 2, 3\}$, $B = \{4, 5, 6\}$ and $C = \{1, 2\}$ find $(A - B) \times (A \cap C)$
3. If $A = \{3, 5\}$, $B = \{5, 6\}$ and $C = \{3, 6\}$, find $(A \times C) - (A \times B)$
4. $A = \{1, 0, -1\}$, $B = \{2, 3\}$, $C = \{1, -1\}$, find $A \times B \times C$ and $B \times A \times C$
5. If $(a, 1)$, $(b, -1)$ and (c, c) are three elements of $A \times B$ and $n(B \times A) = 9$, Find the sets A, B and $B \times C$. Ans $\{a, b, c\}$, $\{1, -1, c\}$, $\{(a, 1), (a, -1), (a, c), (b, 1), (b, -1), (b, c), (c, 1), (c, -1), (c, c)\}$

6. 7. If $A = \{x : x \in \mathbb{N}, x < 4\}$, $B = \{x : x^2 + 5x - 6 = 0, x < 0\}$ then find $A \times B$

7. Let $A = \{1, 2, 3, 4, 5, 6\}$ Define a relation R on set A , $R = \{(x, y) : y = x + 1\}$. Write R ,

represent R using arrow diagram and also write domain and range of R .

8. $f : R \rightarrow R$ is defined by, $f(x) = \begin{cases} 1 & , x \in Q \\ -1 & , x \notin Q \end{cases}$. Find $f\left(\frac{1}{4}\right)$, $f(\pi)$, $f(\sqrt{2})$

9. Find the domain and range of function given by $f(x) = \frac{x-1}{x-5}$

10. Find domain and range of following functions:

$$\text{a) } f(x) = \sqrt{x-4} \quad \text{b) } f(x) = \frac{1}{\sqrt{1-x}} \quad \text{c) } f(x) = \sqrt{25-x^2} \quad \text{d) } f(x) = \frac{x^2-4}{x-2}$$

$$\text{e) } f(x) = \frac{9-x}{x-9} \quad \text{f) } f(x) = \frac{3x-2}{2x-5}$$

TRIGONOMETRY CLASS XI

1) Evaluate

$$\text{(i) } \cos(-480^\circ) \quad \text{(ii) } \sin(-1125^\circ) \quad \text{(iii) } \cot(690^\circ) \quad \text{(iv) } \sin(-765^\circ)$$

$$\text{(v) } \cos 120^\circ$$

2) (i) Show that $\cos 510^\circ \cdot \cos 330^\circ + \sin 390^\circ \cdot \cos 120^\circ = -1$

(ii) Show that $\sin(-420^\circ) \cdot \cos 390^\circ + \cos(-660^\circ) \cdot \sin 330^\circ = -1$

3) Evaluate $\cot(90^\circ + x) + \tan(180^\circ + x) + \sec(360^\circ - x) + \operatorname{cosec}(270^\circ - x)$

4) If $A - B = \pi/4$, Show that $(1 + \tan A)(1 + \tan B) = 2 \tan A$

5) If $\tan(A + B) = x$ and $\tan(A - B) = y$, then Find $\tan 2A$

6) Show that $\tan 8\theta - \tan 6\theta - \tan 2\theta = \tan 8\theta \cdot \tan 6\theta \cdot \tan 2\theta$

7) Show that $\cot 3x \cdot \cot 4x - \cot 7x \cdot \cot 3x - \cot 7x \cdot \cot 4x = 1$

8) Show that $\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ = 1/16$

9) Show that $\sin 20^\circ \sin 40^\circ \sin 60^\circ \sin 80^\circ = 3/16$

10) If $A + B = \pi/4$, Show that $(1 + \tan A)(1 + \tan B) = 2$

COMPLEX NUMBERS

- 1) $i^{49} + i^{68} + i^{89} + i^{110}$
- 2) $i^{37} + i^{-67}$
- 3) $1 + i^{10} + i^{20} + i^{30}$
- 4) $2i^2 + 6i^3 + 3i^{16} - 6i^{19} + 4i^{25} + 4$
- 5) Show that $i^n + i^{n+1} + i^{n+2} + i^{n+3} = 0$
- 6) Show that $(-i)^{4n+3} = i$

Express in standard form

$$7) \frac{2-5i}{3+6i}$$

$$8) \frac{(2+3i)(3-2i)}{(2+5i)(5+2i)}$$

$$9) \frac{2+3i}{1+2i} + \frac{1+i}{2+i}$$

$$10) \frac{(1+i)(1+2i)}{1+3i}$$

11) Find x and y in the following case

$$3x + (2x - 3y)i = 6 + 3i$$

12) Find x and y in the following case

$$13) (x+i)(x+iy) = 2 - 5i$$

14) Find x and y in the following case

$$(x+iy)(2-3i) = 4-3i$$

15) Find the conjugate and the modulus of the followings

$$a) (3-2i)(3+2i)(1+i) \quad b) (2+3i)^2$$

16) If conjugate of $(x+iy)(2-3i)$ is $7+4i$, find x & y

17) If conjugate of $(x-iy)(3+5i)$ is $-6-24i$, find x & y

18) If $\left(\frac{1+i}{1-i}\right)^{100} = a+bi$, find a and b

19) Find the least value of n if $\left(\frac{1+i}{1-i}\right)^n = 1$

20) If $z_1 = 2+3i$ and $z_2 = -1+3i$, then find $\text{Im}\left(\frac{z_1 z_2}{\bar{z}_1}\right)$

LINEAR INEQUALITIES

Solve for x from Q No 1 to 9

1. $\frac{3(x-2)}{5} \leq \frac{5(2-x)}{3}$

2. $2(2x+3) - 10 < 6(x-2)$

3. $3(2-x) \geq 2(1-x)$

4. $37 - (3x+5) \geq 9x - 8(x-3)$

5. $\frac{5-2x}{3} \leq \frac{x}{6} - 5$

6. $-3 \leq -3x + 2 < 4$,

7. $\frac{(2x-1)}{3} \geq \frac{(3x-2)}{4} - \frac{(2-x)}{5}$

8. $\frac{x}{4} < \frac{(5x-2)}{3} - \frac{(7x-3)}{5}$

9. Solve the system of inequalities

$3x - 7 < 5 + x$ and $11 - 5x \leq 1$ and represent the solutions on the number line

10. A manufacturer has 600 litres of a 12% solution of acid. How many litres of a 30% acid solution must be added to it so that acid content in the resulting mixture will be more than 15% but less than 18%?

PERMUTATIONS AND COMBINATIONS

Case study based

Q.1 A state cricket authority has to choose a team of 11 members, to do it so the authority ask 2 coaches of a government academy to select the team

Members that have experience as well as best performer in the last 15 matches. They can make up a team of 11 cricketers amongst 15 possible candidates in which 5 players can bowl.



- (i) In how many ways can the final eleven be selected from 15 cricket players ?
- (ii) In how many ways can the final eleven be selected if exactly 4 bowlers must be included.
- (iii) In how many ways can the final eleven be selected if all bowlers must be included.

Sol. (i) ${}^{15}C_{11} = 1365$

(ii) 4 bowlers can be select by $= {}^5C_4$

Remaining 7 players can be select out of 10 (15-5) is $= {}^{10}C_7$

Total no. of ways is $= {}^5C_4 \cdot {}^{10}C_7 = 600$

(iii) all 5 bowlers can be select by $= {}^5C_5$

Remaining 6 players can be select out of 10 (15-5) is $= {}^{10}C_6$

Total no. of ways is $= {}^5C_5 \cdot {}^{10}C_6 = 210$

Short answer type question

Q.1 How many number of rectangle forming by 5 different horizontal parallel lines and 7 other different vertical parallel line.

Sol. A rectangle forming by two horizontal and two vertical parallel lines

No. of rectangle $= {}^5C_2 \cdot {}^7C_2 = 10 \cdot 21 = 210$

Q.2 How many arrangement of the letters of the word APPLICATION.

Sol. Total letters 11, A = 2, P=2, I=2

No. of arrangements $= \frac{11!}{2! \cdot 2! \cdot 2!} = 4989600$

Q.3 There are 12 point on a circle. How many chord can be draw? Find number of intersection of all chord in the circle?

Sol. No. of chord $= {}^{12}C_2$

No. of intersection of chord = no. of quadrilateral can be made $= {}^{12}C_4$

Long answer type questions

Q.1 Find rank of the word MONDAY in the dictionary wise all arrangements of word MONDAY, also find the word which will on the rank 400.

Sol. Arrange alphabetically A,D,M,N,O,Y

Starting from A _ _ _ _ _ can be arrange by $= 5! = 120$

Starting from D _ _ _ _ _ can be arrange by $= 5! = 120$

Starting from M A _ _ _ _ can be arrange by = $4! = 24$
 Starting from M D _ _ _ _ can be arrange by = $4! = 24$
 Starting from M N _ _ _ _ can be arrange by = $4! = 24$
 Starting from M O A _ _ _ can be arrange by = $3! = 6$
 Starting from M O D _ _ _ can be arrange by = $3! = 6$
 Starting from M O N A _ _ can be arrange by = $2! = 2$
 Starting from M O N D A Y can be arrange by = $1! = 1$
 Rank = $120 + 120 + 24 + 24 + 24 + 6 + 6 + 2 + 1 = 327$

	rank
Starting from A _ _ _ _ _ can be arrange by = $5! = 120$	120
Starting from D _ _ _ _ _ can be arrange by = $5! = 120$	240
Starting from M _ _ _ _ _ can be arrange by = $5! = 120$	360
Starting from N A _ _ _ _ can be arrange by = $4! = 24$	384
Starting from N D A _ _ _ can be arrange by = $3! = 6$	390
Starting from N D M _ _ _ can be arrange by = $3! = 6$	396
Starting from N D O A _ _ can be arrange by = $2! = 2$	398
Starting from N D O M _ _ can be arrange by = $2! = 2$	400 answer

Q.2 Find the arrangements of the letters of the word VOLUMES. Find the arrangements if:-

- (a) all vowels come together.
- (b) all vowels don't come together.
- (c) vowel don't come together.

Sol. Total alphabets = 7, vowels = 3

Total arrangements = $7! = 5040$

(a) All vowels OUE is a one unit and remaining V, L, M, S can be arrange = $5! \cdot 3! = 720$

(b) Total arrangements – all vowels come together = $7! - 5! \cdot 3! = 5040 - 720 = 4320$

(c) V L M S three vowels can be on these 5 gaps = ${}^5C_3$

And 3 vowels can be arrange by = $3!$

And 4 consonants can be arrange by = $4!$

Then total arrangement = ${}^5C_3 \cdot 3! \cdot 4! = 10 \cdot 6 \cdot 24 = 1440$

III. Questions for Practice

MCQs

Q.1 Number of words from the letters of the word **BHARAT** in which B and H will never come together is:

- (a) 210 (b) 240 (c) 422 (d) 400

Q.2 There are 10 true-false questions in a examination. If all questions are compulsory then these questions can be answered in:

- (a) 210 (b) 512 (c) 422 (d) 1024

Q.3 If ${}^{15}\text{Cr} : {}^{15}\text{Cr}_L = 11:5$ then r equals

- (a) 15 (b) 11 (c) 5 (d) 4

Q.4 A polygon has 35 diagonals. Find the number of its sides.

- (a) 7 (b) 16 (c) 10 (d) 70

Q.5 ASSERTION-REASON

In the following question, a statement of assertion (A) is followed by a statement of Reason (R).

Assertion (A): ${}^{13}\text{C}_9 = {}^{13}\text{C}_6$

Reason (R): Selection of the r distinct things out of n is equal to the rejection of the (n-r) distinct

things out of n.

Choose the correct answer out of the following choices.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

Case study based

Q.1 In a company, CEO wants to establish a new branch. New branch required a committee of 5 members is to be formed out of 6 gents and 4 ladies.



In how many ways this can be done, when

- i. At least two ladies are included?
- ii. At most two ladies are included?

Q.2 Read the following passage and answer the questions given below.

Every person has Independence thought.



Find the number of arrangements of the letters of the word INDEPENDENCE. In how many of these arrangements,

- (i) Do the words start with P
- (ii) Do all the vowels always occur together
- (iii) Do the vowels never occur together

OR

Do the words begin with I and end in P?

Q.3 Read the following passage and answer the question given below.

The longest river of North America is *Mississippi River*

In how many ways can the letters of the word MISSISSIPPI be arranged Such that

- (i) All letters are used
 - (ii) All I's are together
 - (iii) All I's are not together
- OR
- All S's are not together



Short answer type question

Q.1 If ${}^{10}P_r = 5040$, find the value of r

Q.2 If ${}^5P_r = 6 \cdot {}^5C_{r-1}$, find value of r .

Q.3 How many 6-digit number can be formed from the digits 0,1,3,5,7,9 which are divisible by 10

and no digit is repeated ?

Q.4 How many words can be formed by using the letters of the word ORIENTAL, so that the vowels always occupy the odd places ?

Q.5 How many squares in a chess board?

Q.6 How many palindrome of 5 letters can be made by using letters of the word MATHS?

Q.7 It is required to seat 5 men and 4 women in a row so that the women occupy the even places. How many such arrangements are possible ?

Q.8 Given 12 flags of different colours, how many different signals can be generated if each signal

requires the use of 2 flags, one below the other?

Q.9 There are four bus routes between A and B; and three bus routes between B and C. A man can

travel round-trip in number of ways by bus from A to C via B. If he does not want to use a bus route more than once, in how many ways can he make round trip?

Q.10 In an examination there are three multiple choice questions and each question has 4 choices. Find the number of ways of answering all the questions?

CLASS XI – INFORMATICS PRACTICES

AUTUMN BREAK HOLIDAY HOMEWORK

Section A – Python Basics and Control Statements

1. Differentiate between interactive mode and script mode in Python.
2. Identify the keywords, identifiers and constants in the following statement: `total = marks + 10`.
3. Predict the output of the following code and state the data type of each variable:
 - `a = 10`
 - `b = 2.5`
 - `c = a + b`
 - `print(c)`
 - `print(type(c))`
4. Explain the difference between mutable and immutable data types. Give one example of each.
5. What is operator precedence? Evaluate the expression `5 + 2 * 3 ** 2`.
6. Write a Python program to input a number and display whether it is positive, negative or zero.
7. Write a Python program using a for loop to display the first 10 natural numbers and their sum.
8. Write a Python program to input a number and check whether it is divisible by both 3 and 5.

Section B – Lists, Dictionaries and NumPy

9. Consider the list `Marks = [78, 65, 92, 65, 84]`. Write Python statements to display its length, count the occurrences of 65, sort the list, and display the maximum and minimum marks.
10. Write a Python program to input five numbers into a list and calculate their sum and average.
11. Write Python statements to insert 70 at index 2, append 95, remove the first occurrence of 65, and display the updated list: `Marks = [78, 65, 92, 65, 84]`.
12. Consider the dictionary `Student = {"Aman": 85, "Riya": 92, "Mohit": 76}`. Write Python statements to update Mohit's marks to 80, add Neha with 88 marks, and display all student names and marks.
13. Explain any four dictionary methods or functions from the following: `dict()`, `len()`, `keys()`, `values()`, `items()`, `update()` and `clear()`.
14. Write a Python program to create a dictionary containing the names of three books and their available copies. Display the book names and update the copies of one book.
15. What is NumPy? Write Python code to create and display a NumPy array from the list `[10, 20, 30, 40, 50]`.

HOLIDAY HOMEWORK OF PAT (CLASS 11TH)

1. Explain Sai Khelo India Fitness Test and its test batteries.
2. Explain type of sports injuries and its prevention.
3. Explain First Aid, CPR and its type.
4. Write down the safety rules during physical activity.
5. Prepare a lesson plan on volleyball and basketball.

Write down these topics in practical file.