CLASS XI
SUMMER HOLIDAY HOMEWORK
(2024-25)

INDEX

ACCOUNTANCY

MEANING AND OBJECTIVES OF ACCOUNTING

All questions are compulsory:-

(A) MULTIPLE CHOICE QUESTIONS:-

1. Which is not a financial transaction -
A. Receiving an order to sending goods for Rs 100000
B. Goods costing Rs 20000 given as charity
C. Salary paid to employees Rs 50000
D. Rent received Rs 5000

2. Characteristics of accounting are-
A. Summarising
B. Classifying
C. Interpretation of the results
D. All of the above

3. Not a sub-field of accounting-
A. Financial Accounting
B. Cost Accounting
C. Tax Accounting
D. Economic Accounting

4. Internal user are-
A. Owners
B. Investors
C. None of the above
D. Both A and B

5. Employees are external users-
A. True
B. False

6. Accounting is not an evidence in legal matters-
A. True
B. False

(B) FILL IN THE BLANKS-

7. Book-keeping ....then accounting.................

8. Accounting is the ....stage

9. "............... refers to the entire body of the theory and practice of accounting."

10. Accounting is affected by window dressing is a ....of accounting.

(C) SHORT ANSWER TYPE QUESTIONS-

11. Define accounting.

12. Explain in brief the following qualitative characteristics of accounting-
  (A) Reliability
  (B) Comparability

13. Give any two differences between Accounting and Accountancy.

14. Explain any two limitations of accounting.

15. Give any four objectives of accounting.

CHAPTER-2
BASIC ACCOUNTING TERMS
WORKSHEET

(A) MULTIPLE CHOICE QUESTIONS:- (1 Mark Each)

(i) Capital is

(a) Internal liability.

(b) External liability.

(c) Internal as well as External liability.

(d) None of these.

(ii) Goods taken by the proprietor for personal use is

(a) Sale.

(b) Drawings.

(c) Purchase.

(d) None of these.

(iii) Amount received or receivable against sale of goods is

(a) Revenue receipt.

(b) Capital receipt.

(c) Sometimes revenue receipt and sometimes capital receipt.

(d) None of these.

(iv) Amount paid or payable against purchase of goods is

(a) Revenue expenditure.

(b) Capital expenditure.

(c) Both (a) and (b).

(d) None of these.

(v) Goodwill is a/an

(a) Tangible Asset.

(b) Intangible Asset.

(c) Current Asset.

(d) Fictitious Asset.

(B) Determine, if the following are Assets, Liabilities, Capital, Revenue from Operations, Revenues, Expenses or none: (1 Mark Each)

(a) Machinery, (b) Purchases, (c) Stock, (d) Creditors, (e) Capital,

(f) Salary paid to a clerk, (g) Sales, (h) Furniture, (i) Interest received and (j) Rent paid.

(C) SHORT ANSWER TYPE QUESTIONS-(3 Marks Each)

1. Distinguish between Loss and Expense

2. Explain the meaning of **any four** of the following terms:

(i) Account

(ii) Capital

(iii) Solvent

(iv) Revenue

(v) Debtors.

3. Distinguish between Opening Stock and Closing Stock.

4. Write a note on types of assets with one example of each.

5. A firm earns revenue of ₹ 21,000 and the expenses to earn this revenue are ₹ 15,000. Calculate its income.

ACCOUNTING PRINCIPLES

(A) MULTIPLE CHOICE QUESTIONS:-

1. GAAP stands for-
 A. Generally Allowed Accounting Principles
 B. Generally Accepted Accounting Principles
 C. Generally Accept Accountants Principles
 D. None of the above

2. Not a Fundamental Accounting Assumption-
A. Going Concern Concept
B. Consistency Concept
C. Accrual Concept
D. Objectivity Concept

3. According to which concept Fixed Assets are recorded at purchased value-
A. Consistency Concept
B. Accrual Concept
C. Matching Concept
D. Cost Concept

4. The basic accounting equation is-
A. Assets=Capital-Liabilities
B. Capital=Assets + Liabilities
C. Assets=Liabilities + Capital
D. Liabilities=Assets + Capital

5. Financial year ends every year as on-
A. 31st March
B. 30th June
C. 31st December
D. 1st April

6. According to which convention closing stock is valued at cost or net realisable value whichever lower-
A. Full Disclosure
B. Cost
C. Conservatism or Prudence
D. Materiality

(B) FILL IN THE BLANKS-

7. According to................concept revenue is recorded sales are made or services are rendered irrespective of whether the cash received or not.

8. .... concept state that every transaction affects at least two accounts.

9. Accounting principles and methods should remain consistent from one year to another stated in..............concept.

10. .... concept states that business and owner both are separate to each other.

(C) SHORT ANSWER TYPE QUESTIONS-

11. State the meaning of Accounting Principles.

12. What are the criteria required for acceptance of an accounting principle.

13. Explain the Going Concern Concept.

14. Give differences between Accounting Concepts and Accounting Conventions.

15. Explain the followings-
   A Convention of materiality
   B Accounting period concept
   C Money measurement concept
   D Revenue recognition concept

BUSINESS STUDIES

Multiple choice questions

1. Business risk is not likely to arise due to
   (a) Changes in government policy
   (b) Good management
   (c) Employee dishonesty
   (d) Power failure

2. The industries which provide support services to other industries are known as
   (a) Primary industries
   (b) Secondary industries
   (c) Commercial industries
   (d) Tertiary industries

3. Which of the following is not an example of non-economic activity?
   (a) Patriotism
   (b) teaching
   (c) sentiment
   (d) sympathy

4. A partner whose association with the firm is unknown to the general public is called
   (a)Active partner   (b)Sleeping partner   (c)Nominal partner   (d)Secret partner

5. In case of _____ Registration is compulsory

   (a) Sole Proprietorship   (b) Partnership   (c) Company   (d) None of these

6. The karta in Joint Hindu family business has
   (a) No liability for debts   (b) Unlimited liability   (c) Joint liability   (d) Limited liability

7. Which of the following statement is not true about minor partner?
   (a) He has to bear losses also.
   (b) He can inspect books of accounts.
   (c) He has an option to continue with the firm after attaining majority.
   (d) He only shares profit.

8. According to the Indian Companies Act 1956, minimum number of members to form a public company are:
   (a) 10   (b) 7   (c) 15   (d) 1

9. The Chinese traders frequently visited Calicut to acquire this item from India.
   (a) Cotton   (b) Pepper   (c) Diamonds   (d) All of these

10. Gurmeet and Gurpreet are doing separate business of installing centralised Air Conditioning units in Delhi. They enter into partnership contract to install centralised AC unit in a hotel in Chandigarh. Which type of partnership is being highlighted?
    (a) Partnership at will (b) Particular Partnership
    (c) Limited Partnership (d) General Partnership

11. Which form of business is suitable for business where personalised services are rendered:
    (a) Partnership (b) Sole proprietorship (c) HUF (d) Cooperative society

12. Shenoy is a shareholder in a company holding 10,000 shares of Rs. 10 each on which he has already paid Rs. 8 per share. What will be his liability in the event of losses or company's failure to pay debts?
    (a) Rs.20,000 (b) Rs.21,000 (c) Rs.22,000 (d) Rs.20,200

13. The maximum number of members in a private company are:
    (a) 2 (b) 200 (c)2000 (d) 20,000

14. _____- is called the parent of the company
    (a) Director (b) Shareholder (c) Promoter (d) Registrar

15. Punjabi and Multani merchants handled business in_____ region.
    (a) Northern (b) Eastern (c) Western (d) Southern

16. Risk is not likely to arise due to:
(a) Good management
(b) Change in government policy
(c) Employee Dishonesty
(d) Power failure

17. A form of business organisation which is owned, managed and controlled by one person having unlimited liability.
    (a) One Person Company (b) Sole Proprietorship (c) Both A and B (d) None of them

18. Members of Hindu Undivided Family have _____ liability
    (a) Limited (b) Unlimited (c) Joint (d) None of them

19. In ancient times Surat was famous for:
    (a) Diamonds (b) Pepper (c) Textile with gold zari (d) Perfumes

20. Private co. can be started with just ___ number of members, whereas public company requires at least ____ number of members.

(a) 2,7 (b) 2,3 (c) 7,2 (d) 3,2

Case study-based Questions

21. Bhagirathi Ltd. is a popular company manufacturing water Purifiers. Its product is very much liked by people in the market. The traders are in a race to become the company's distributors. The company had been earning huge profits for many years. However, in the year 2020, the company's half yearly report shows a great decline in the company's profit. The top management is worried about this. A team of specialists from outside is appointed to solve this serious problem. After a thorough examination, the specialists presented the following reasons for the decline in the profits of the company.

(i)Increase in competition and change in taste of the consumers.

(ii) Theft of cash and goods by the employees.

(iii)Identify and explain the two causes of decline in profits.

22. Majestic Pvt. Ltd. is a reputed company manufacturing Laptops. The company is earning a considerable profit. Both the proprietors and the employees are putting their best efforts to make good quality products available to the customers at a low price, paying its shareholders a good number of dividends and the employees a reasonable remuneration. This contributes to the successful operations of the business. With increased profits over time, the company's foundation becomes strong, and it earns a good reputation in the society. It utilises its profits to finance its growth and expansion requirements. Explain the role of profit in business of Majestic Pvt. Ltd. by quoting the lines from the above para.

23. Arpita Sharma, after completing her MBA, began to help her father, Mr. Ram Sharma, in his business. The business had a limited capital investment. Arpita wanted to use the modem business techniques in every area of business, namely, purchase, sales, production, finance, etc. In fact, she wanted to implement the methods, which she had learnt in her MBA course, in her father's business. As soon as she started adopting the latest techniques, the workers began to protest and resist the changes. So, she became disappointed and left her father's business. She started working in an MNC. Mr. Ram Sharma was unable to assume the responsibility of all managerial tasks such as purchasing, selling, financing, etc. Good workers started leaving the organisation. The goodwill of the business in the market went on declining. In no time, the liabilities of the business became many times more than the assets. On account of the pressure exerted on him by the creditors, Mr. Ram Sharma had to repay the debts of the business by disposing off his personal properties.

(a) Identify the form of business organisation discussed in the above para.

(b) Quoting the relevant lines from the para explain any three limitations of the form of business organisation identified in (a).

24. Mr. Harsh Gupta contracted with a firm. According to the contract, he has advanced a loan of Rs. 20 lakh to the firm and in exchange he got the power to take a few decisions regarding the firm's business. Besides, he got 9% interest on the loan and 12% of profits earned by the firm.

Is Mr. Harsh Gupta a partner of the firm? Give reasons in support of your answer.

25. APEX Ltd. took a loan of Rs. 30 lakh from a bank for its growth and expansion plans. The company was unable to repay the loan amount because of heavy losses incurred in the business on a continuous basis. The management of the company asked its shareholders to contribute towards repayment of the loan.

But the shareholders refused as they had already paid the full amount due on their shares. The bank filed a case against APEX Ltd. in the court. The court held that the shareholders of the company were not liable to repay the loan as they had not unpaid amount on shares.

(a) Is the court's decision justified? Give reason in support of your answer.

(b) Which characteristic of the company form of organisation protected the shareholders? Explain.

26. Explain any four auxiliaries to trade.

27. If registration is optional, why do partnership firm willingly go through this legal formality and get themselves registered? Explain by giving reasons.

28. All the members of a company sitting in a general meeting were killed by a bomb. Was the company wound up? Explain.

29. A member, who held all shares except one share of a timber company, insured the company's timber in his own name. Can he claim compensation from the insurance company? Explain.

30. Differentiate between:

(a) Business, Profession and Employment

(b) Private and Public company

(c) Particular partnership and Partnership at will

(d) General partner and limited partner

(e) Economic and non economic activities

31. Siya ram Industries pvt. ltd.is a large company which produces agricultural products like jute and cotton, etc. Instead of selling these agricultural products in the market, the company uses these as raw materials to produce jute bags and cotton cloth in its own established textile industry. To which type and subtype of industries are related the different products described in the above para? Explain.

32. After completing the masters, Shalu and Rachna decided to set up a textile mill to earn income. Their main job is to purchase yarn from the market and convert it into textile. Their textile is available in the variants of cotton, silk and rayon. They sell these under the brand name 'Little extra' and earn a reasonable profit of 15% on cost. They worked very hard to flourish the business on a regular basis, and their business is of superior quality and low price. Their business was running very well. But one day, the mill caught fire, and as a result they had to suffer a heavy loss. However, Shalu and Rachana did not lose their heart, and worked even harder. Gradually, their business was back to normal. Now they are fully satisfied with their business.

Quoting the lines from the above para, explain any four characteristics of business.

33. Kamal Gupta and Vimal Gupta are two brothers, who inherited some ancestral property. They decided to form a Hindu Undivided Family (HUF) business consisting of four male members. Kamal Gupta is the elder brother. So, he became 'Karta'. The business took a loan of ₹ 20 lakh from Punjab National Bank having maturity period of 5 years. Due to poor financial position of the business, they were unable to repay the loan. They sold the ancestral property for ₹ 10 lakh and paid the same to Punjab National Bank. They could not pay the balance amount of loan with interest. The bank filed a case for recovery of the balance amount. Kamal Gupta pleaded the court that the loan was taken for the purpose of business, therefore, all the members of the business were liable to repay the loan. The court held that all other members were responsible only to the extent of their share in business, and the business property was already sold. However, Kamal Gupta, being 'Karta' would have to repay the balance amount even by selling his personal properties. Kamal Gupta had to sell some of his personal assets to repay the balance amount to bank loan.

(a) Is the court's decision justified? Give reasons in support of your answer.

(b) State any three other features of HUF businesses.

34. Jute is mainly produced in Bengal, while Tea in Assam & Darjeeling but they are required for consumption in different parts of the country. How can this hindrance of place be removed? Under what business activity will it be categorised? Explain.

ECONOMICS (030)

Worksheet - (Statistics) CHAPTER 1

Q1. Read the following statements. Choose one of the correct alternatives.

Assertion (A): Production is an economic activity.

  Reason (A): Production includes all those activities which are undertaken to produce goods and services for generation of income and satisfying human wants.

Alternatives:

a. Both assertion(A) and reason(R) are true, and reason is the correct explanation of assertion.

b. Both assertion(A) and reason(R) are true, but reason is not the correct explanation of assertion.

c. Assertion(A) is true, but reason (R) is false.

d. Assertion is false, but reason(R) is true.

Q2. Scarcity of resources applies to all:

    A. Individuals

    B. Organisations

    C. Countries

    D. All of the above

Q3. Which economist shifted the emphasis of economics from wealth to welfare?

    A. Adam Smith

    B. Samuelson

    C. Alfred Marshall

    D. Lionel Robbins

Q4. Scarcity definition of Economics has been given by Adam Smith.

   (True/ False)

Q5. ----------------- is an economic activity which deals with use of goods and services for satisfaction of human wants.

  (Consumption / Production)

Q6. What is Microeconomics and Macroeconomics?

Q7. Is economics a science or an art?

Q8. Is economics a positive science or normative science or both?

WORKSHEET ch2, (Statistics)

Q1. Read the following statements. Choose one of the correct alternatives.

Assertion (A): statistics are a number of facts.

  Reason (A): single and isolated figures are not statistics as such figures can not be compared.

Alternatives:

a. Both assertion(A) and reason(R) are true, and reason is the correct explanation of assertion.

b. Both assertion(A) and reason(R) are true, but reason is not the correct explanation of assertion.

c. Assertion(A) is true, but reason (R) is false.

d. Assertion is false, but reason(R) is true.

Q2. **Statement** 1: a single figure can never be called statistics.

Statement 2: Qualitative characteristics like intelligence and beauty can be easily included in statistics.

Alternatives:

    a. Both the statements are true

    b. Both the statements are false

    c. Statement 1 is true and statement 2 is false

    d. Statement 2 is true and statement 1 is false

Q3. **Statement** 1: The purpose of collecting statistical data needs to be decided in advance.
Statement 2: In plural sense, the term 'statistics' means statistical methods.
Alternatives:
   a. Both the statements are true
   b. Both the statements are false
   c. Statement 1 is true and statement 2 is false
   d. Statement 2 is true and statement 1 is false

Q4. . Read the following statements. Choose one of the correct alternatives.
Assertion (A): in plural sense, statistics means a collection of numerical facts.
   Reason (A): statistics should be enumerated according to a reasonable standard of accuracy.
Alternatives:
a. Both assertion(A) and reason(R) are true, and reason is the correct explanation of assertion.
b. Both assertion(A) and reason(R) are true, but reason is not the correct explanation of assertion.
c. Assertion(A) is true, but reason (R) is false.
d. Assertion is false, but reason(R) is true.

Q5. The word 'statistics' is used as:
   A. Singular
   B. Plural
   C. Both (A) and (B)
   D. None of these

Q6. Statistics as a singular noun means:
   A. Statistical Data
   B. Statistical Methods
   C. Inductive Statistics
   D. Descriptive Statistics

Q7. Statistics as a plural noun indicates:
   A. Statistical Methods
   B. Descriptive Statistics
   C. Statistical Data
   D. Inductive Statistics

Q8. Which of the following is not a limitation of Statistics?
   A. Statistics can be misused
   B. Statistics does not study qualitative phenomena
   C. Statistics laws are not exact
   D. Statistics deals with aggregates of facts

Q9. State the five main stages of Statistical study.

Q10. Categorise the following into 'quantitative' and 'qualitative' data:
   a. Expenditure of family
   b. Marks of students
   c. Honesty of employees
   d. Wages of workers
   e. Intelligence of students
   f. Age of people.

WORKSHEET - (CHAPTER - Primary And Secondary data)

Q1. Primary data is preferred over Secondary data where:

    A. Time available is short.
    B. Accuracy is important
    C. Sufficient finance is not available
    D. Much accuracy is not required

Q2. Data collected from 'The Times of India' is an example of:

    A. Primary data
    B. Secondary data
    C. None of these
    D. Census

Q3. A good questionnaire should have:

    A. Minimum questions
    B. Concise
    C. Clear
    D. All of the above

Q4. -------------- Data is originally collected by an investigator for the first time for some specific purpose. (Primary/Secondary)

Q5. Census method is not possible in case of heterogeneous population. (True/False)

Q6. Read the following statements. Choose one of the correct alternatives.

Assertion (A): Primary data is original.

Reason (A): Primary data is collected by the investigator himself.

Alternatives:

a. Both assertion(A) and reason(R) are true, and reason is the correct explanation of assertion.

b. Both assertion(A) and reason(R) are true, but reason is not the correct explanation of assertion.

c. Assertion(A) is true, but reason (R) is false.

d. Assertion is false, but reason(R) is true.

Q7. **Statement** 1: Indirect oral investigation method is a very costly method.

Statement 2: The degree of accuracy is extremely high in case of indirect oral investigation.

Alternatives:

    a. Both the statements are true

    b. Both the statements are false

    c. Statement 1 is true and statement 2 is false

    d. Statement 2 is true and statement 1 is false

Q8. Distinguish between Primary Data and Secondary Data on the basis of 'originality'.

Q9. What do you mean by a questionnaire?

Q10. What do you mean by census method? Give its merits and demerits.

Q11. What is the non-random method of sampling.

Q12. What do you mean by random sampling?

PHYSICAL AND HEALTH EDUCATION

Practical 1 :- Details of Athletics
1. History of Athletics
2. Latest rules and regulations
3.Important terminologies
4. Fundamental skills
5. Award winners name
6. Play Field specifications and
7. Tournaments.

Practical 2 :- Details of any major game
1. History of the game
2. Latest rules and regulations
3.Important terminologies
4. Fundamental skills
5. Award winners name
6. Play Field specifications and
7. Tournaments.

ENGLISH CORE

Make an innovative ppt/ creative project file (Art integrated project of Nagaland and Rajasthan)

   Points to be included -

1)Location ,latitude and language - integrated to   S.Sc
2) Famous poets & writers and literary works of both the states - integrated to Language
3) Scientists and scientific achievements of both the states- Integrated to Science
4) Solar energy / conventional energy resources of both the states - Integrated to Science
5) Minerals and resources of both the states integrated to Science (Chemistry)
6) Food resources , Flora and fauna of both the states - Biology
7) Famous monuments of both the states- Social Science
8) A bar graph to show the Variation of Literacy in the following years 1990- 2023 - Mathematics

HISTORY

- Prepare a file. (practical)

  Write about the given topics according to this format…
  1.Index
  2.synopsis
  3content
  4.conclusion
  5.bibliography
- **Revise**
  - ➢ Chapter -1: Writing &city life
  - ➢ Chapter -2 An empire across Three continents

GEOGRAPHY

1. Collect information about the LHC and CERN
2. Prepare flowchart of the evolution of Lithosphere, Atmosphere, Hydrosphere and Biosphere.
3. Prepare model of solar system. (If possible, make a working model)

Draw an outline map of India on a white sheet & show mountains plateaus and rivers

CORE MATHEMATICS

Question 1. Construct all possible type of Venn diagrams of 2 sets and 3 sets.

Queation 2. Construct the graphs of following functions and write the range and domain   also.

      a. Greatest integer function

      b. Modulus function

      c. Signum function

      d. All the trigonometric functions

Question 3. Find the domin and range of following functions

   a. $\sqrt{9 - 4x^2}$

   b. $\frac{x+1}{x-2}$

   c. $|x + 1|$

Questions 4 By using properties of the sets prove the following

      a. (A∪B)-(A∩B)=(A-B)∪(B-A)

      b. A-(B∩C)=(A-B)∪(A-C)

      c. (A-B)∪(A∩B)=A

      d. A-(A∩B)=A-B

Question 5 if two sets have cardinal number m and n elements and difference of their
number of subsets are 240 then find the values of m and n.

LAB MANUAL ACTIVITY

- Activity 1. To find the number of subsets of a given set and verify that if a set has n number of elements then the total number of subsets is 2^n.
- Activity 2. To verify that for two sets A and B, $n(A \times B) = pq$ and the total number of relations from A to B is 2^{pq}, where n(A)=p and n(B)=q.
- Activity 3. To identify a relation and a function.
- Activity 4. To distinguish between a relation and a function.

PSYCHOLOGY

- **Prepare a file. (practical)**

Write about the given topics according to the instructions given in class.

    1. Methods of Enquiry in Psychology

- **Revise**

  Chapter -1 What is Psychology?

  Chapter -2 Methods of Enquiry in Psychology.

- **Prepare a file. (practical)**

INFORMATICS PRACTICES

Instructions-
All the Questions to be done in Copy -

1.	An/A _____ is a type of _____ that translates and executes instructions written in computer program line-by-line-
	    a. Interpreter, Language Processor
	    b. Compiler, Language Processor
	    c. Assembler, Application Software
	    d. Compiler, Customized software

2.	Identify the invalid keyword used in Python: a. if b. else c. while d. true

3.	[ ] is an example of :
	    a. Operator
	    b. Keyword
	    c. Identifier
	    d. Punctuator

4.	What is the use of // operator in Python?
	    a. Divide the operand on the left by the operand on the right of the operator and returns the quotient including the decimal part.
	    b. Divide the operand on the left by the operand on the right and returns the remainder.
	    c. Divide the operand on the left by the operand on the right of the operator and returns the quotient by removing the decimal part. It is sometimes called as Integer division.
	    d. None of the above.

5.	Assertion(A): Missing parenthesis in a program causes syntax error.
	Reason (R): Access the file which does not exist causes run-time error.
	    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 True and R is False.
	    d. A is False and R is True.

6.	Keys of dictionary must be _____.
	    a. Similar
	    b. Unique
	    c. Odd Numbers
	    d. Even Numbers

7.	Which of the following statement is incorrect about a dictionary?
	    a. It is a mapping datatype, but its values are immutable.
	    b. It is a mapping mutable datatype, but its keys are immutable.
	    c. A dictionary has a key: value pair of comma separated items enclosed in curly brackets.
	    d. It is unordered collection of items.

8.	Assertion (A): Indentation in Python is used to form block of statements also known as suite.
	Reason (R): In Python, indentation is required for indicating what block of code, a statement belongs to.
	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 True and R is False.
	d. A is False and R is True.
9.	Identify the error from the following code-

```
if n==0
    print("ZERO")
elif n==1:
    print("ONE")
```

a. Colon (:) is missing after the condition n==0
b. Comma (,) is missing after the condition n==0
c. Hash(#) is missing after the condition n==1
d. Dolor ($) is missing after the condition n==1

	Case study-based question
10.	Read the passage given below and answer the following questions-

Python IDLE

IDLE typically provides code editor, compiler/interpreter and Debugger in one GUI. It encapsulates the entire process of code creation, compilation and testing which increase the productivity of the developers.

a. What is the Full Form of IDLE
   i. Intermediate Development Environment
   ii. International Development Environment
   iii. Integer Development Environment
   iv. Integrated Development Environment
b. Which of the following is provided by IDLE-
   i. Code Editor
   ii. Compiler/Interpreter
   iii. Debugger
   iv. All of these
c. What is the full form of GUI-
   i. Graphical User Interface
   ii. Graph User Interface
   iii. GNOME User Interface
   iv. None of the above
d. What does IDLE encapsulate-
   i. Error
   ii. Code Creation
   iii. Deletion
   iv. Both ii and iii
e. The name Python comes from the comic book hero-
   i. Monty Python
   ii. Bill Gates
   iii. Albert Einsten

	iv. None of the above

11.	Give the output of the following: -
	    i. num1= '5' + '5'
	        print(num1)
	    ii. num1=float (10)
	        print(num1)

12.	What do you understand by the term immutable in Python? Name the data types that are immutable in nature.
13.	Write any two features of Python List.
14.	Mention any two variable naming convention rules in Python.

15.	Define the following-
	    a. Syntax error
	    b. Runtime error
	             OR
	
	What are data types in Python? Name the different data types which handle the numbers.

16.	What is the purpose of range function? Explain.

17.	Write the output of the following-
	a. for i in range(20,30,2):
	      print(i)
	
	b. country= 'INDIA'
	   for I in country:
	   print(I)

18.	Define Keywords and variables.
19.	Write a program in Python that will obtain a number from user at run time and will find and display it as an Even or Odd Number. OR Write a program in Python that will obtain age from user and will print "eligible to vote", if his/her age is greater than or equal to 18 , otherwise it will print "not eligible to vote".

20.	What will be the output of the following?
	    a. 87//5
	    b. 87//5.0
	    c. (87//5.0)==(87//5.0)
	    d. print(len(str(17//4)))
	    e. x, y=20,60
	       x, y=y,x,x+20
	       print(x,y)

APPLIED MATHEMATICS

1. Convert the following numbers into binary system:

   (a) 124   (b) 225

2. Convert the following binary numbers into decimal system:

   (a) 110101   (b)101001

3. Solve the following:
(a) $\log (x-2) + \log (x+2) = \log3 + 3\log4$

(b) $7 \log \frac{16}{15} + 5 \log\frac{25}{24} + 3 \log \frac{81}{80}$

(c) $\log_2 x + \log_8 x + \log_{32} x = \frac{23}{15}$

4. If $\log x = m+n$ and $\log y = m-n$, express the value of $\log 10x/y^2$ in terms of m and n.

5. If $a = \log_x yz$, $b = \log_y xz$, $c = \log_z xy$ then prove that $\frac{1}{1+a} + \frac{1}{1+b} + \frac{1}{1+c} = 1$.

6 How long would it take an investor to double an investment of Rs. 60000 at 12% per annum compounded monthly?

7. If $2^x = 3^y = 12^z$, prove that $x = \frac{2yz}{y+z}$.

8. If 15th august 2011 was Monday what day of the week was on 17th September 2011.

9. At what time between 3 and 4 o'clock the angle between the two hands of the clock is 50 deg?

10. A, B and C working together can do a work in 2, 3 and 4 respectivily. if they all work together and earn Rs. 3900 for whole work, how should they divide the money?

11. A conical vessel of radius 6 cm and height 8 cm is completely filled with water. A sphere is lowered into the water and its size is such that when it touches the sides, it is just immersed. What fraction of water overflows?

12. A wire bent in the form of a square enclosed an area of 121 sq cm. If the same wire is bent so as to form a circle, then find the area of a circle.

13. Case study questions:
(a) *A circus tent is cylindrical to a height of* 2.1 meters *and conical above it.*If its diameter *is* 14 *m and the* total *height of the conical* portion *is* 26.1*m.*

Based on the above information, answer the following questions:

(i)   The height of the conical tent.
(ii)   The slant height of the cone is?
(iii)   Find the area of the canvas.

(b) A clock is a device used to measure, keep and indicate time. The clock is one of the oldest human inventions, meeting the need to measure intervals of time shorter than the natural units the day, the month and the year.

Based on above information, answer the following questions:

(i)   What is the angle through which the minute hand turns in one minute?
(ii)   By how much the tip of the minute hand move in 1 hour?
(iii)

Find the area swept by the hour hand in three hours if the length of the hour hand is 2.1 cm

Activities: -

14. To find the number of subsets of a

Paper, different coloured pencils.

given set and verify that if a set has n

number of elements, then the total

number of subsets is 2".

15.To verify that for two sets A and B,
n (AxB) = pq and the total number of
relations from A to B is 22", where
n(A)=p and n(B)=q.

CHEMISTRY

1. Which of the following pairs of gases contains the same number of molecules?
   (a) 16 g of O_2 and 14 g of N_2
   (b) 6 g of O_2 and 22 g of CO_2
   (c) 28 g of N_2 and 22 g of CO_2
   (d) 32 g of CO_2 and 32g of N_2

2. Formation of CO and CO_2 illustrates the law of —————.
   (a) Law of conservation of mass
   (b) Law of Reciprocal proportion
   (c) Law of Constant Proportion
   (d) Law of Multiple Proportion

3. The electronic configuration of chromium (Z=24) is:
   (a) [Ne] $3s^2 3p^6 3d^4 4s^2$
   (b) [Ne] $3s^2 3p^6 3d^5 4s^1$
   (c) [Ne] $3s^2 3p^6 3d^1 4s^2$
   (d) [Ne] $3s^2 3p^6 4s^2 4p^4$

4. Which of the following is not permissible?
   (a) n= 4, l = 3, m= 0
   (b) n= 4, l = 2, m= 1
   (c) n= 4, l = 4, m= 1
   (d) n= 4, l = 0, m= 0

In the following questions one mark each (Q. No. 6 - 9) a statement of **Assertion (A)** followed by a statement of **Reason (R)** is given. Choose the correct answer out of the following choices.
   (i)   A and R both are correct statements and R is the correct explanation for A.
   (ii)   A and R both are correct statements and R is not correct explanation for A.
   (iii)   A is correct statement but R is wrong statement.
   (iv)   A is wrong statement but R is correct statement.

5. **Assertion (A):** The empirical mass of ethene is half of its molecular mass.

   Reason (R): The empirical formula represents the simplest wholenumber ratio of various atoms present in a compound.

6. **Assertion (A):** Equal moles of different substances contain same number of constituent particles.
   Reason (R): Equal weights of different substances contain the same number of constituent particles.

7. **Assertion:** It is impossible to determine the exact position and exact momentum of an electron simultaneously.
   Reason: The path of an electron in an atom is clearly defined.

8. **Assertion:** The radius of the first orbit of hydrogen atom is 0.529Å.
   Reason: Radius of each circular orbit $(r_n) = 0.529Å (n^2/Z)$, where n = 1, 2, 3 and Z = atomic number.

9. The density of the 3 molal solution of NaOH is 1.110 g mL^{-1}. Calculate the molarity of the solution.

10. What is the difference between the terms orbit and orbital?

11. A cricket ball of mass 100 g does not move like a wave when it is thrown by a bowler at a speed of 100 km/h. Calculate the wavelength of the ball and explain why it does not show wave nature.

12. Calculate the mass percent of calcium, phosphorus and oxygen in calcium phosphate $Ca_3(PO_4)_2$?

13. 45.4 L of dinitrogen reacted with 22.7 L of dioxygen and 45.4 L of nitrous oxide was formed. The reaction is given below: $2N_2(g) + O_2(g) \rightarrow 2N_2O(g)$, Which law is being obeyed in this experiment? Write the statement of the law.

How many significant figures should be present in answer to the following calculation?

$$\frac{2.5 \times 1.25 \times 3.5}{2.01}$$

14. Table-tennis ball has a mass of 10 g and a speed of 90 m/s. If speed can be measured with an accuracy of 4% what will be the uncertainty in speed and position?

15. **Case study-based questions**

The presence of positive charge on the nucleus is due to the protons in the nucleus. As established earlier, the charge on the proton is equal but opposite to that of electron.

Atomic number (Z) = number of protons in the nucleus of an atom = number of electrons in a neutral atom.

Protons and neutrons present in the nucleus are collectively known as nucleons. The total number of nucleons is termed as mass number (A) of the atom. mass number (A) = number of protons (Z) + number of neutrons (n).

Isobars are the atoms with same mass number but different atomic number for example, $_6^{14}C$ and $_7^{14}N$. On the other hand, atoms with identical atomic number but different atomic mass number are known as Isotopes. For example, considering of hydrogen atom again, 99.985% of hydrogen atoms contain only one proton. This isotope is called protium ($_1^1H$). Rest of the percentage of hydrogen atom contains two other isotopes, the one containing 1 proton and 1 neutron is called deuterium ($_1^2D$, 0.015%) and the other one possessing 1 proton and 2 neutrons is called tritium ($_1^3T$).

(1) The presence of positive charge on the nucleus is due to the …. in the nucleus.
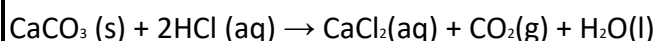
(a) Protons

(b) Neutrons

(c) Electron

(d) Nucleons

(2) Atomic Number & Mass number is denoted by

(a) A, M

(b) Z, A

(c) N, M

(d) A, Z

3. (a) X and Y are two elements with the same mass number but different atomic numbers 27 and 30 respectively. If X has a mass number of 57, find the number of neutrons in Y.

(b) Write the electronic configuration of any one pair of isobars.

16. Calcium carbonate reacts with aqueous HCl to give $CaCl_2$ and CO_2 according to the reaction given below:

$CaCO_3 (s) + 2HCl (aq) \rightarrow CaCl_2(aq) + CO_2(g) + H_2O(l)$

What mass of $CaCl_2$ will be formed when 250 mL of 0.76 M HCI reacts with 1000 g of $CaCO_3$? Calculate the number of moles of $CaCl_2$ formed in the reaction.

(a)   Define limiting reagent. In the reaction 2A + 4B → 3C + 4D, when 5 moles of A react with 6 moles of B, then

(i) Which is the limiting reagent?

(ii) Calculate the amount of C formed?

17. (i) An atom having atomic mass number 13 has 7 neutrons. What is the atomic number of the atom?

   (ii)   The electronic configuration of the valence shell of Cu is $3d^{10} 4s^1$ and not $3d^9 4s^2$. Give reason.

   (iii)   Nickel atom can lose two electrons to form Ni^{2+} ion. The atomic number of nickels is 28. From which orbital will nickel lose two electrons?

   (iv)   Chlorophyll present in green leaves of plants absorbs light at 4.620×10^{14} Hz. Calculate the wavelength of radiation in nanometre. Which part of the electromagnetic spectrum does it belong to?

PHYSICS

1. ABCDE is a pentagon. Prove that

$$\overrightarrow{AB} + \overrightarrow{BC} + \overrightarrow{CD} + \overrightarrow{DE} + \overrightarrow{EA} = 0.$$

2. In Fig. 4.28, ABCDEF is a regular hexagon. Prove that $\overrightarrow{AB} + \overrightarrow{AC} + \overrightarrow{AD} + \overrightarrow{AE} + \overrightarrow{AF} = 6\,\overrightarrow{AO}$.
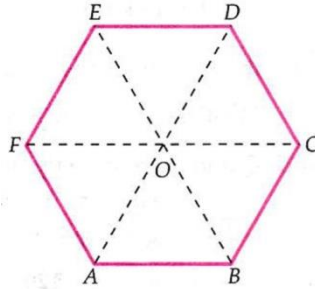

Fig. 4.28

3. A boy travels 10 m due north and then 7 m due east. Find the displacement of the boy.

4. Find the resultant of two forces, one 6 N due east and other 8 N due north.

5. Calculate the angle between a 2 N force and a 3 N force so that their resultant is 4 N.

6. The resultant vector of $\vec{P}$ and $\vec{Q}$ is $\vec{R}$. On reversing the direction of $\vec{Q}$, the resultant vector becomes $\vec{S}$. Show that: $R^2 + S^2 = 2(P^2 + Q^2)$.

7. Two equal forces have the square of their resultant equal to three times their product. Find the angle between them.

8. When the angle between two vectors of equal magnitude is $2\pi / 3$, prove that the magnitude of the resultant is equal to either.

9. At what angle do the two forces (P + Q) and (P - Q) act so that the resultant is $\sqrt{3P^2 + Q^2}$.

10. The resultant of two equal forces acting at right angles to each other is 1414 dyne. Find the magnitude of either force.

11. If $\vec{A} = 3\,\hat{\imath} + 2\,\hat{\jmath}$ and $\vec{B} = \hat{\imath} - 2\,\hat{\jmath} + 3\hat{k}$, find the magnitudes of $\vec{A} + \vec{B}$ and $\vec{A} - \vec{B}$.

12. Find the unit vector parallel to the resultant of the vectors $\vec{A} = 2\hat{\imath} - 6\hat{\jmath} - 3\hat{k}$ and $\vec{B} = 4\hat{\imath} + 3\hat{\jmath} - \hat{k}$.

13. Determine the vector which when added to the resultant of $\vec{A} = 2\hat{\imath} - 4\hat{\imath} - 6\hat{k}$ and $\vec{B} = 4\hat{\imath} + 3\hat{\imath} + 3\hat{k}$ gives the unit vector along z-axis.

14. Find the value of λ in the umt vector $0.4\,\hat{\imath} + 0.8\hat{\jmath} + \lambda\hat{k}$.

15. Given three coplanar vectors $\vec{a} = 4\hat{\imath} - \hat{\jmath}, \vec{b} = -3\hat{\imath} + 2\hat{\imath}$ and $\vec{c} = -3\hat{\jmath}$. Find the magnitude of the sum of the three vectors.

16. A force is inclined at 30° to the horizontal. If its rectangular component in the horizontal direction is 50 N, find the magnitude of the force and its vertical component.

17. A velocity of 10 ms^{-1} has its \Y - component $5\sqrt{2}$ ms^{-1}. Calculate its X - component.

18. Find the angle between the vectors

$\vec{A} = 2\,\hat{\imath} - 4\,\hat{\jmath} + 6\hat{k}$ and $\vec{B} = 3\,\hat{\imath} + \hat{\jmath} + 2\,\hat{k}$.

19. Find the angles between the vectors $\vec{A} = \hat{\imath} + \hat{\jmath} + \hat{k}$ and $\vec{B} = -\hat{\imath} - \hat{\jmath} + 2\hat{k}$.

20. For what value of m, is the vector $\vec{A} = 2\,\hat{\imath} + 3\hat{\jmath} - 6\,\hat{k}$ perpendicular to the vector

$\vec{B} = 3\,\hat{i} - m\hat{j} + 6\,\hat{k}$?

21. For what value of a are the vectors $\vec{A} = a\hat{i} - 2\hat{j} + \hat{k}$ and $\vec{B} = 2a\hat{i} + a\hat{j} - 4\hat{k}$ perpendicular to each other?

22. Find the angles between the following pairs of vectors :

(i) $\vec{A} = \hat{i} + \hat{j} + \hat{k}$ and $\vec{B} = -2\hat{i} - 2\hat{j} - 2\hat{k}$.

(ii) $\vec{A} = -2\hat{i} + 2\hat{j} - \hat{k}$ and $\vec{B} = 3\,\hat{i} + 6\hat{j} + 2\hat{k}$.

(iii) $\vec{A} = 4\hat{i} + 6\hat{j} - 3\hat{k}$ and $\vec{B} = -2\hat{i} - 5\hat{j} + 7\hat{k}$.

23. Calculate the values of (i) $\hat{j}. (2\hat{i} - 3\hat{j} + \hat{k})$ and (ii) $(2\hat{i} - \hat{j}). (3\hat{i} + \hat{k})$.

24. A force $\vec{P} = 4\hat{i} + \hat{j} + 3\hat{k}$ newton acts on a particle and displaces it through displacement $\vec{S} = 11\hat{i} + 11\hat{j} + 15\hat{k}$ metre. Calculate the work done by the force.

25. Under a force of $10\,\hat{i} - 3\,\hat{j} + 6\hat{k}$ newton, abody of mass 5 kg is displaced from the position $6\hat{i} + 5\hat{j} - 3\hat{k}$ to the position $10\hat{i} - 2\hat{j} + 7\hat{k}$.

Calculate the work done.

26. The sum and difference of two vectors $\vec{A}$ and $\vec{B}$ are $\vec{A} = 2\hat{i} + 6\hat{j} + \hat{k}$ and $\vec{A} - \vec{B} = 4\hat{i} + 2\hat{j} - 11\hat{k}$.

Find the magnitude of each vector and their scalar product $\vec{A} . \vec{B}$.

27. A force $\vec{F} = 5\,\hat{i} + 4\,\hat{j}$ newton displaces a body through $\vec{S} = 3\,\hat{i} + 4\,\hat{k}$ metre in 3s. Find the power.

28. If the resultant of the vectors $3\hat{i} + 4\hat{j} + 5\hat{k}$ and $5\hat{i} + 3\hat{j} + 4\hat{k}$ makes an angle 6 with x-axis, then find cos θ.

29. Show that the vectors $\vec{A} = 3\hat{i} - \hat{j} + \hat{k}, \vec{B} = \hat{i} - 3\hat{j} + 5\hat{k}$ and $\vec{C} = 2\hat{i} + \hat{j} - 4\hat{k}$ form a right angle triangle.

30. If vectors $\vec{A}, \vec{B}$ and $\vec{C}$ have magnitudes 8, 15 and 17 units and $\vec{A} + \vec{B} = \vec{C}$, find the angle between $\vec{A}$ and $\vec{B}$. (Ans. 90°)

31. If $\vec{A} = \vec{B} - \vec{C}$, then determine the angle between $\vec{A}$ and $\vec{B}$.

$$\left(\text{Ans.}\, \theta = \cos^{-1} \frac{A^2 + B^2 - C^2}{2AB} \right)$$

32. For two vectors $\vec{A}$ and $\vec{B}$ if $\vec{A} + \vec{B} = \vec{C}$ and $A + B = C$ then prove that $\vec{A}$ and $\vec{B}$ are parallel to each other.

33. Prove that :

$(\vec{A} + 2\vec{B}). (2\vec{A} - 3\vec{B}) = 2A^2 + AB \cos \theta - 6B^2$.

34. If $\vec{A} = \hat{i} + 3\,\hat{j} + 2\,\hat{k}$ and $\vec{B} = 3\,\hat{i} + \hat{j} + 2\,\hat{k}$, then find the vector product $\vec{A} \times \vec{B}$.

35. Prove that the vectors $\vec{A} = 4\,\hat{i} + 3\,\hat{j} + \hat{k}$ and $\vec{B} = 12\hat{i} + 9\hat{j} + 3\hat{k}$ are parallel to each other.

36. If $\vec{A} = 2\,\hat{i} + 3\hat{j} + \hat{k}$ and $\vec{B} = 3\,\hat{i} + 2\,\hat{j} + 4\,\hat{k}$, then find the value of $(\vec{A} + \vec{B}) \times (\vec{A} - \vec{B})$.

35. Find the value of a for which the vectors $3\,\hat{i} + 3\,\hat{j} + 9\hat{k}$ and $\hat{i} + a\,\hat{j} + 3\hat{k}$ are parallel.

36. Find a unit vector perpendicular to the vector $\vec{A} = 4\hat{i} - \hat{j} + 3\hat{k}$ and $\vec{B} = -2\,\hat{i} + \hat{j} - 2\hat{k}$.

37. Find the sine of the angle between the vectors $\vec{A} = 3\,\hat{i} - 4\,\hat{j} + 5\hat{k}$ and $\vec{B} = \hat{i} - \hat{j} + \hat{k}$.

38. Find a vector of magnitude 18 which is perpendicular to both the vectors $4\,\hat{i} - \hat{j} + 3\hat{k}$ and $-2\hat{i} + \hat{j} - 2\hat{k}$.

39. Determine the area of the parallelogram whose adjacent sides are formed by the vectors

$\vec{A} = \hat{i} - 3\,\hat{j} + \hat{k}$ and $\vec{B} = \hat{i} + \hat{j} + \hat{k}$.

40. Find the area of the triangle formed by points O, A and B such that $\overrightarrow{OA} = \hat{i} + 2\,\hat{j} + 3\,\hat{k}$ and $\overrightarrow{OB} = -3\,\hat{i} - 2\,\hat{j} + \hat{k}$.

41. Find with the help of vectors, the area of the triangle with vertices A(3, −1, 2), B(1, −1, −3) and C(4, −3, 1) .

42. If $\vec{A}$ and $\vec{B}$ are two such vectors that $|\vec{A}| = 2, |\vec{B}| = 7$ and $\vec{A} \times \vec{B} = 3\,\hat{\imath} + 2\,\hat{\jmath} + 6\hat{k}$, find the angle between $\vec{A}$ d $\vec{B}$.

43. Find the moment about the point $\hat{\imath} + 2\,\hat{\jmath} - \hat{k}$ of a force represented by $3\,\hat{\imath} + \hat{k}$ acting through the point $2\,\hat{\imath} - \hat{\jmath} + 3\,\hat{k}$.

44. Prove that $(\vec{a} + \vec{b}) \times (\vec{a} - \vec{b}) = 2(\vec{b} \times \vec{a})$.

45. Prove that $|\vec{a} \times \vec{b}| = \sqrt{a^2 b^2 - (\vec{a} \cdot \vec{b})^2}$

46. Find $|\vec{A} \times \vec{B}|$ if $|\vec{A}| = 10, |\vec{B}| = 2$ and $\vec{A} . \vec{B} = 12$

BIOLOGY

17	Biology	1. Investigatory Project : Collect five twigs of plants and pictures of five animals and write (describe) complete classification . 2. Complete biology practical record .

POLITICAL SCIENCE

- Dear Students make a project file. (Choose any one from below given Topics)

Write about the given topics according to this format-
1) Index
2) Synopsis
3) Content
4) Conclusion
5) Bibliography

Topics ☞ (Any one)

Topics for Political Science Project for Class XI
1. Making of the Constitution
2. Fundamental Rights and Fundamental Duties
3. Directive Principles of the State Policy and its working
4. Constitutional amendments: Process
5. Major Constitutional Amendments in India
6. Election System of India
7. Electoral Reforms