Bal Bharati PUBLIC SCHOOL

Sector-21, Noida, G.B. Nagar

SUMMER HOLIDAY HOMEWORK (2023 – 24)

CLASS XI

ACCOUNTANCY

Question 1. What is Accounting? Define its objectives?

Question 2. The art of recording all business transactions in a systematic manner in a set of books is called-
(a) Accounting
(b) Book–keeping
(c) Ledger
(d) None of these.

Question 3. Cash, goods or assets invested by the proprietor in the business for earning profit is called-
(a) Profit
(b) Capital
(c) Fixed assets
(d) None of these

Question 4. Define Debtors and Creditors of the company

Question 5. Mention 2 Differences between Accounting and Accountancy.

Question 6. Explain the qualitative characteristics of Accounting?

Question 7. Who are the users of accounting information?

Question 8. Enumerate informational needs of management

Question 9. Giving examples, explain each of the following accounting terms:

- Fixed assets
- Revenue
- Expenses
- Short-term liability
- Capital

Question 10. What are the 3 advantages of accounting?

Question 11. Define revenues and expenses..

Question 12. Define the branches of accounting.

Question 13. Describe the role of accounting in the modern world.

Question 14. Differentiate between profit and gain.

Question 15. Fill in the blanks

- The document certifying the purchase or sale of goods or any monetary transaction is called ……………

- The things or properties which help in the smooth functioning of the business and which are owned by the business are called …………… of the business.
- The unsold goods left at the end of the year are called ……………
- …………… represents the excess of assets over liabilities

PROJECT CLASS XI (2023-24)

- **Project Work (Any One) (20 Marks)**

1. Collection of source documents, preparation of vouchers, recording of transactions with the help of vouchers.

2. Preparation of Bank Reconciliation Statement with the given cash book and the pass book with twenty to twenty-five transactions.

3. Comprehensive project of any sole proprietorship business. This may state with journal entries and their ledgering, preparation of Trial balance. Trading and Profit and Loss Account and Balance Sheet. Expenses, incomes and profit (loss), assets and liabilities are to be depicted using pie chart / bar diagram

INTERNSHIP

Students are advised to intern themselves with any organization known to them and try to analyze the financial statements of the organization and identify the terms studies till now and their importance.

ARTIFICIAL INTELLIGENCE

RESEARCH BASED ACTIVITY - 15 MARKS

Project Document must comprise:
- Cover Page with the names of the group along with members
- Index
- Basic Intro/ About the research topic
- How it Works/ What's happening around
- Research Core Area
- Data Visualizations
- Infographics
- Data Privacy Issues
- Inferences/Conclusions
- Citations/References

Project Topics:
- Recommendation models - OTT Platforms
- Recommendation models - Food Delivery Giants

- Recommendation models - Shopping Apps
- Script Bots - A chatbot for School
- Sentiment Analysis in Text/Voice
- Big Data - How apps collect data
- ChatGPT - A revolutionary bot
- Autonomous Cars – Future of Transportation
- AI shaking up the Job Market

Project Details:
- The project has to be made with collaborative effort of all team members. Each team/group can have 3-4 members.
- The team shall submit the project document hardcopy in the first week of July,2023.
- The students can select any one or more companies or brands to have a focussed research.
- The team shall present their project with the help of presentations and other support materials.

Valuable links:
For data visualization and finding correlations
https://codap.concord.org/

For making charts and infographics
https://infograph.venngage.com/

For Data
Kaggle: Your Machine Learning and Data Science Community

BIOLOGY

Prepare a detailed research paper, PPT and Spiral bound file from the topic of your choice.
List of Investigatory projects-
a) To isolate caffeine from tea leaves.
b) To determine the amount of Vitamin C in selected samples of fruit juices.
c) To determine the amount of casein present in different samples of milk.
d) To study the presence of insecticides and pesticides in various fruits and vegetables.
e) Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, taste etc.
f) Proxymal Supraventrical Tachycardia, Epidermodysplasia verruciformis, Kawasaki Disease, Progeria, Hunter's Syndrome, Genetic Abnormalities, Vampire Disorder, Mad Cow Disease, Fibrodysplasia ossificans Progressiva, Abdominal Cocoon etc.

Any case study of disease of your choice.
Complete the Investigatory project and compile it according to the prescribed format.
- Cover page
- Certificate

- Acknowledgment
- Index
- Introduction
- Content (including pictures/graphs/tables/survey report etc.)
- Case Study
- Bibliography

- **Assessment Criterion**- Content, Presentation, Research Work, Case study, Viva-voce and Confidence.
- It is **an individual activity** and marks will be awarded in Half yearly and Annual Examination during practical Examination.

BUSINESS STUDIES

General instructions:
  i. The assignment is divided into two parts.
  ii. Part A contains a set of questions to be attempted in the business studies class register.
  iii. Part B has to be done in a project file.

PART A
1. Classify the following into economic and non-economic activities:
   a) Smita cooks food for her family.
   b) A person selling cold drinks on the railway station.
   c) A student praying in a temple for good marks in the test.
   d) A doctor treating patients at his clinic.
   e) An old lady attending a 'Satsung'.
   f) A person teaching his daughter for her Board Exams.
2. Give examples of various types of industries. (three each).
3. Identify the services detailed below:
   (a) The service which helps in removing hindrance of knowledge.
   (b) The service which helps in removing hindrance of exchange.
   (c) The service which helps in removing hindrance of place.
   (d) The service which helps in removing hindrance of time.
   (e) The service which helps in removing hindrance of risk.
5. 'Risk in an inherent element of a business'. Do you agree? Give reasons.
6. Which type of business risk involves both the possibility of gain as well as the possibility of loss?
7. Differentiate between Business and Profession.
8. "Profit is an essential objective of business due to certain reasons". Comment.
9. Differentiate between Economic and Non-Economic Activities.
10. "Is Profit maximization the sole objective of a business." Comment

PART B

11. Select a Consumer durable public limited company of your choice and collect the following information regarding that company :
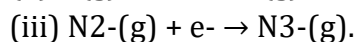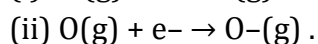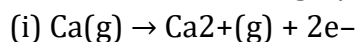   a) Brief history
    b) Mission statement
    c) Names of its top level officials.
    d) Details of the products manufactured and marketed
    e) Brand name, brand mark and standardization mark adopted by the company.
    f) Market standing
    g) Types of sales promotional techniques used. (paste the advertisements given in the newspapers/ magazines)
    h) Labelling of its products. (paste the labels of its various products)
    i) Innovations made by the company and future plans
    j) Kinds of risks faced by the company
    k) Comment on the social responsibility pursued by that company.
    l) Type of organizational structure followed
    r) Customer support services provided by the company.

CHEMISTRY

1. Under what conditions the heat evolved or absorbed is equal to the internal energy change?
2. What is the sign of AH for endothermic reactions and why?
3. What is the relationship between the standard enthalpy of formation and the enthalpy of a compound?
4. Why enthalpy of neutralization is less if either the acid or the base or both are weak?
5. Why the entropy of a diamond is less than that of graphite?
6. Is the enthalpy of neutralization of HCl is same as that of H_2SO_4? If so, why?
7. Is the experimental determination of enthalpy of formation of CH_4 possible?
8. For the reaction $NaCl (aq) + AgNO_3 (aq) \rightarrow AgCl(s) + NaNO_3(aq)$, will ΔH be greater than, equal to or less than ΔE?
9. What is the limitation of the I law of thermodynamics?
10. Which of the following is a state function?
    (i) height of a hill
    (ii) distance traveled in climbing the hill
    (iii) energy consumed in climbing the hill.
11. What is the value of enthalpy of neutralization of a strong acid and a strong base?
12. Out of 1 mole of $H_2O(g)$ and 1 mole of $H_2O(l)$ which one will have greater entropy?
13. Name two intensive and extensive properties of a system.
14. For a reaction also ΔH and ΔS are positive. What is the condition that this reaction occurs spontaneously?
15. What is the sign of ΔS when N_2 and H_2 combine to form NH_3?
What is the effect of increasing temperature on the entropy of a substance?

16. What would be the heat released when 0.35 mol of HC1 in solution is neutralized by 0.25 mol of NaOH solution?

17. Which of the following is/are exothermic and which are endothermic?

    (i) $Ca(g) \rightarrow Ca^{2+}(g) + 2e^-$

    (ii) $O(g) + e^- \rightarrow O^-(g)$.

    (iii) $N^{2-}(g) + e^- \rightarrow N^{3-}(g)$.

18. Calculate $\Delta_r G^\theta$ for the conversion of oxygen to ozone, $\frac{3}{2}O_2(g) \rightarrow O_3(g)$ at 298 K, if Kp for this conversion is 2.47×10^{-29}

19. Find the value of the equilibrium constant for the following conversion reaction at 298 K.

   $\Delta_r G^\theta = -13.6$ kJ mol-1.

20. Why is it not possible to cool gas to o K?

21. What is the compressibility factor?

22. What is a Triple point?

23. The density of A gas is 3.80 g L-1 at STP. Calculate its density at 27°C and 700 torr pressure.

24. What is meant from Boyle point or Boyle temperature?

25. What is the difference between normal boiling point and standard boiling point?

26. Which are the two faulty assumptions in the kinetic theory of gases.

27. How do the real gases deviate from ideality above and below the Boyle point?

28. Account for the following;

 (a) Aerated water bottles are kept underwater during summer.

 (b) Liquid ammonia bottle is cooled before opening the seal.

 (c) The tyre of an automobile is inflated at lesser pressure in summer than in winter.

 (d) The size of the weather balloon becomes larger and larger as it ascends up to higher altitudes.

29. In a hospital, an oxygen cylinder holds 10 L of oxygen at 200 atm pressure. If a patient breathes in 0.50 ml of oxygen at 1.0 atm with each breath, for how many breaths the cylinder will be sufficient. Assume that all the data is at 37°C.

30. At what temperature centigrade, will the volume of a gas at 0°C double itself, pressure remaining constant?

31. A gas occupies a volume of 2.5 L at 9×10^5 Nm-2. Calculate the additional pressure required to decrease the volume of the gas to 1.5 L, keeping the temperature constant.

32. What volume of air will be expelled from a vessel containing 400 cm3 at 7° C when it is heated to 27° C at the same pressure?

33. 10.0 g of O_2 were introduced into an evacuated vessel of 5-litre capacity maintained at 27°C. Calculate the pressure of the gas in the atmosphere in the container.

35. A steel tank containing air at 15 atm pressure at 15°C ¡s provided with a safety valve that will yield at a pressure of 30 atm. To what minimum temperature must the air be heated to below the safety valve?

All the students will visit to the different office/shop/mall and find the software used by these organizations also check the data flow of their software also take the screenshots.

Q1.	What do the following stands for? (a) ALU (b) RAM
Q2.	Define secondary memory. Give one example
Q3.	What is an Operating System? Give one example.
Q4.	Define following devices. (a) MICR (b) OMR
Q5.	Differentiate between System Software and Application Software. Give one example for each.
Q6.	Python was developed by ---------------?
Q7.	Write two advantages of Python language.
Q8.	Write any two rules for naming a variable in python.
Q9.	Name the method/function to display the value of a variable.
Q10.	Find the output of the following code: M = 30 N = 10 M,N = N**2,M * 2 Print(M,N)
Q11.	How are the following two statements different to each other? A = 4 A == 4
Q12.	What are arithmetic operators? Give two examples.
Q13.	Write the output of the following code: A = 6 B = 3 print(A * B) print(A ** B)
Q14.	What is the wrong with following code? Write the correct code. A = input("Enter number 1")) B = int(input("Enter number 2")) print(A + B)
Q15.	Write a program to radius from the user. Calculate and print the area of a circle.
Q16.	Write a program to input year from the user. Check and print year is leap year or not.
Q17.	What will be the output of the following code? X = "ABC" if X =="abc": print("True")

	else: print("False")
Q18.	Convert the following for loop into while loop: for R in range(20,60,5): print(R)
Q19.	How many times "Hello" will be printed in the following code? J = 7 while J < 7 print("Hello")

Q20.	Write the output of the following code:
	T = 16
	A = 1
	while T<=20:
	   print(A)
	   A = A +10
	   T = T - 2
	else:
	   print("OVER")

Q21.	Write the output of the following code:
	M = "10"
	if M == 10:
	   print("OK")
	else:
	   print("Cancel")

Q22.	What will be the output of the following code?
	T = 5
	for E in range(5,1,-1):
	    T = T + E
	    print(T)

Q23.	Find the output of the following code.
	for L in "abcde":
	    if L == 'a' or L == 'c':
	      print("Hello")
	    else:
	      continue
	else:
	    print("World")

Q24.	Predict the output of the following code.
	for J in range(1,25,5):
	    if J == 20:
	      break
	    else:

	print(J) else: print("OK")
Q25.	Write four parts of a loop.
Q26.	Write a program to input a string from the user. Count and print the total vowels present in the string.
Q27.	Write the following commands on the basis of string R = "Global Warming" a. print the second letter of the string R. b. print the string R in reverse. c. print the characters at odd position of the string R. d. print the first three characters of the string R. e. print the length of the string R.
Q28.	Write a program to input a string from the user. Check and print the given string is palindrome or not.
Q29	Write a program to input a number **n** from the user. Calculate and print the sum of all numbers between the range 1 to n.
Q30.	Write a program to print all odd numbers between the range 100 to 150.

ECONOMICS

CONSUMERS EQUILIBRIUM/ DEMAND

State True or False:
1. Scarcity is the root cause of all economic problem.
2. Prices in the Indian market are continuously falling is a normative economic statement.
3. India should control its population is a positive economic statement.
4. Macro economics is also known as 'Price Theory'.
5. Market demand is studied under Macro economics.
6. There can exist a paradox in micro and macro activities.
7. 'How to produce' is a problem linked to distribution of national income.
8. Typical shape of PPC is convex to the origin.
9. Increasing MRT leads to concave shape of the production possibility curve.
10. Production if wheat falls from 25 units to 20 units leading to rise in butter production from10units to 20units. MOC is 2.
11. An economy always operates on PPF.
12. Massive unemployment will shift PPF leftward.
13. 'Make in India' and 'start up India' campaigns will shift PPC rightward.
14. Developed nations like Japan will have no economic problems.
15. If there was no scarcity, there was no economic problem.
16. Rotation in PPC is same as shift in PPC.
17. Ordinal measure of utility measures utility in terms of numbers.8. Cardinal measure of utility measures utility in terms of preference.

19. At 1st unit of consumption Marginal utility is equal to Total utility.
20. Marginal utility can never be negative.
21. Typical IC is concave to the origin.
22. Marshall gave indifference curve approach.
23. MRS measures the slope of Indifference curve.
24. Two ICs can intersect.
24. MRS measures the slope of budget line.
25. Marginal utility is minimum when Total utility is maximum.
26. If MUX > PX consumer should continue consuming more.
27. Demand and Desire are same things.
27. Reduction in price causes increase in demand.
28. Favourable change in other factors cause extension in demand.
29. When the price of Tea increases the demand for coffee increases.
30. If the price of car increases, demand curve for petrol shifts rightward.
31. Change in Quantity demanded is also referred to shift in demand.
32. Change in quantity demanded is also referred to movement along the same demand curve.
33. Law of demand is derived from law of diminishing marginal utility.

II. PROJECT

Topic can be chosen from any area related to economics preferably from Indian Economy. This project will be submitted for Class XI Final practical examination. The expectations of the project work are that:

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

- Learners may work upon the following lines as a suggested flow chart:
- Choose a title/topic Collection of the research material/data
- Organization of material/data
- Present material/data
- Analysing the material/data for conclusion
- Draw the relevant conclusion Presentation of the Project Work.

III. INTERNSHIP

All students must try to enrol themselves for an internship which will engage them productively during the summer holidays. The internship can be done in any corporate office/ shop/NGO which will allow the student to observe the management and financial aspects of the organisation.

General Instructions:

- **All the answers must be correctly numbered as in the assignment. Attempt the given assignment, very neatly, in a register.**
- **Attempt each question carefully and follow the instructions given.**

Q1) Read the following passage carefully:

1.Once, Lakshman Singh Potai, Santosh Kumar Usendi and Butia Ram Kurram may have hunted in the forests of Chattisgarh in their free time. Now they have social media accounts, know some English, and Potai at least is the proud owner of a selfie-stick. The first kids from Abujmarh-Gondi for "unknown highlands"-to take admission in Delhi University, will graduate from Hindu College this year with honours degrees in Physics.

2.Their move to Delhi in the summer of 2013 was momentous. The Chhattisgarh chief minister had organised a farewell; the governor had written a letter of introduction saying, "They are remarkable in the sense that they come from Abujmarh area of Bastar, which remained impenetrable to the administration till recently and is Naxal affected." In 2014, a fourth teen, Nihal Nag from Matenar in Dantewada, joined DU. Three of them hope to be civil servants; Kurram wants to appear for CAT.

3.They owe much of their English skills to their friends. "Our Manipuri friends don't speak Hindi at all," explains Potai. He knows Chandni Chowk thanks to a group project in their first year; they've watched movies in Connaught Place theatres; sampled the fare at different college canteens and had Manipuri fish at a friend's place near North Campus. When he goes home, Potai and Santosh buy sweets from a shop in Dwarka's sector 11 and clothes from Karol Bagh. But the long commute between hostel and college (they stay at Utkarsh, Chhattisgarh government's Tribal Youth Hostel in Dwarka) leaves little time for other things they're good at, football and music. "They're also doing well in class. They're the youngest here but have set an example for the others who are preparing for civil service exams," says Dinesh Jha, Assistant Commissioner with his office at Utkarsh. Potai has an average score of 80% over five semesters; Usendi has 56% and Kurram-currently at home recovering from fever-has about 70%. "This experience has given us confidence," says Potai. He'd encouraged Nag to pick DU physics over engineering in Hyderabad.

4.Nag is a second-year Physics student at Deen Dayal Upadhyaya College. His mother, Kamala Vinay Nag, the District Panchayat President, is a bit of a phenomenon back home. "She was abandoned by her father in Tikanpal. Villagers raised her and funded her education. She's studied till Class XII," says Nag. His father passed away in 2013 and a younger brother has cancer. Their treatment so debilitated the family's resources that when Nag came to DU they "didn't have enough to eat." On his 2014 winter break, he'd

encouraged his mother to contest elections and walked with her to the collector's office to file nominations. On his next visit, in Winter 2015, he scuttled a child marriage.

5.Their homes are changing too. Buses now reach more villages-Usendi's is 75 kilometres from Narayanpur, the district headquarters, but now has a road going to it-there are more CRPF personnel but electricity is still a problem. Nag says Dantewada is very different from its image. "It's developing and we have everything. I posted photos of Chitrakoot and Tirathgarh waterfalls on Facebook and got many likes. Our friends want to visit," adds Potai.

6.Abujmarh was inaccessible even to government surveyors for a long time. Till 2009, the Maoist stronghold was a no-go zone for "outsiders" and the government itself relied on NGOs to deliver basic services. Naturally, there's still much ground to be covered. "People either don't know about government schemes or how to sign up," says Potai.

7.Jha is convinced the boys will speed things up. Potai is already preparing to write the state public service exams and has an inch-thick folder of notes to show for it. "I want to be in a position to do something for my people."   -- **Source: TOI-Delhi**

I.On the basis of your understanding of the passage answer the following questions by choosing from the options given below:

   a. **Potai, Usendi and Kurram hail from.....**
   i.   Manipur   ii) Deep forests   iii) Ajubhmarh-Gondi   iv) outskirts of Delhi

   b. **When they moved to Delhi....**
        i.the Chief Minister organised a reception
        ii.the village Head man organised a reception
        iii.their families were reluctant
        iv.their friends came with them

   c. **When Potai goes home, he takes.....**
        i.his Manipuri friends with him
        ii.the Manager of the hotel
        iii.sweets from a shop in Dwarka
        iv.sweets from a shop in Connaught Place

   d. **Usendi's home is.....**
        i.in Dwarka
        ii.75 kms from Narayanpur
        iii.in Dantewada
        iv.in the Maoist stronghold.

II) Answer the following questions briefly:
a.   When did the group move to Delhi and why was it remarkable?
b.   How have the boys developed their English speaking skills?
c.   Where do they stay in Delhi?
d.   What opinion do the others have of them at the hostel?

e. What is Nag's home background?

f. Give three facts about Abujmarh.

III) Find words that are synonyms of the words given below:

a. Difficult to reach (para6)

    b. Completely sure (para7)

Q2. Read the Passage carefully:

Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Particular applications of AI include expert systems, speech recognition and machine vision.

AI can be categorized as either weak or strong. Weak AI, also known as narrow AI, is an AI system that is designed and trained for a particular task. Virtual personal assistants, such as Apple's Siri, are a form of weak AI. Strong AI, also known as artificial general intelligence, is an AI system with generalized human cognitive abilities. When presented with an unfamiliar task, a strong AI system is able to find a solution without human intervention.

Because hardware, software and staffing costs for AI can be expensive, many vendors are including AI components in their standard offerings, as well as access to Artificial Intelligence as a Service (AIaaS) platforms. AI as a Service allows individuals and companies to experiment with AI for various business purposes and sample multiple platforms before making a commitment.

While AI tools present a range of new functionality for businesses, the use of artificial intelligence raises ethical questions. This is because deep learning algorithms, which underpin many of the most advanced AI tools, are only as smart as the data they are given in training. Since humans select what data should be used for training an AI program, the potential for human bias is inherent and must be monitored closely.

Some industry experts believe that the term artificial intelligence is too closely linked to popular culture, causing the public to have unrealistic fears about artificial intelligence and improbable expectations about how it will change the workplace and life in general. Researchers and marketers hope the label augmented reality which has a more neutral connotation, will help people understand that AI will simply improve products and services, not replace the humans that use them.

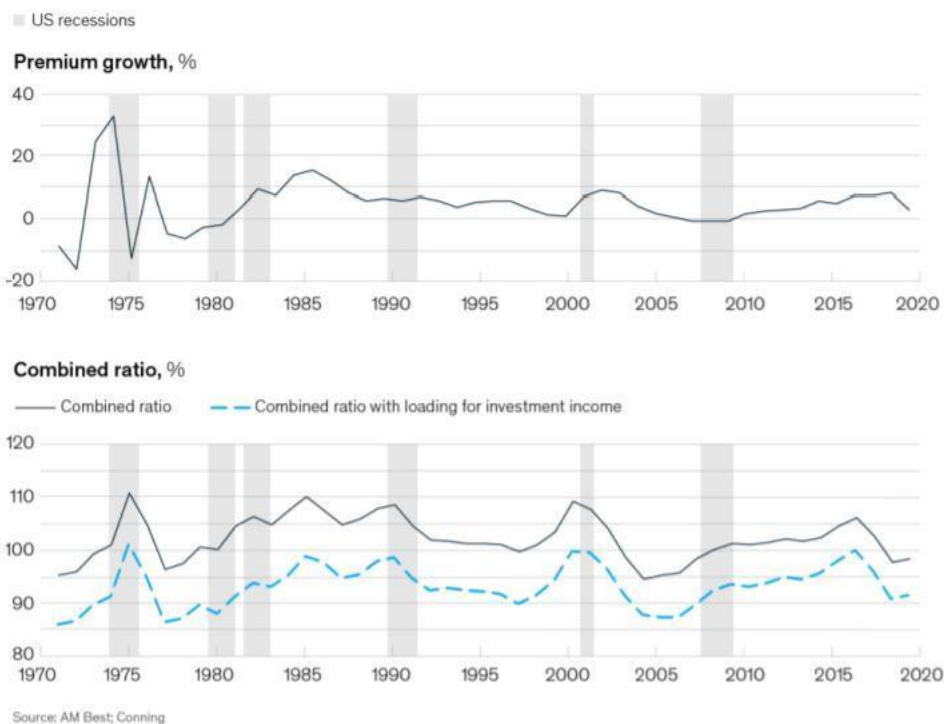1. **. On the basis of your reading of the above passage, make notes on it, using headings and subheadings. Use recognizable abbreviations and give an appropriate title.**
2. **Write a summary in approximately 80 words.**

Q3. Read the passage given below:

Since its creation in the 17th Century, insures have amassed polices in each class of risk they cover. Thanks to technology, insures now have access to more information

about the risks that individuals run. Car insures have begun to set premiums based on how actual drivers behave, with "telematic" tracking devices to show how often they speed or slam on the brakes. Analysts at Morgan Stanley, a bank, predict that damage to insured homes will fall by 40-60% if smart sensors are installed to monitor, say, frayed electrical wiring. Some health insures provide digital fitness-bands to track policy holders vital signs – and give discounts if they lead a healthier life. But the data can only go so far. Even the safest driver can be hit by a falling tree: people in connected homes still fall off ladders. But the potential gains from smart insurance are large. First, giving people better insights into how they are managing risk should help them change their behaviour for the better. Progressive, an American car insurer, tells customers who use its trackers where they tend to drive unsafely; they crash less often as a result. Second, pricing will become keener for consumers. The insurance industry made $338 billion in profits last year. More accurate risk assessment should result in lower premiums for many policyholders. Third , insurers should be able to spot fraud more easily, by using data to verify claims.

Over the past 50 years, the US personal auto insurance market has not generally correlated to the economy.

Source: AM Best; Conning

McKinsey & Company

But two worries stand out. One is a fear that insures will go from being with to ones that watch your every move. The other, thornier problem is that insures will cherry pick the good risks, leaving some people without safety net or to be taken care of by the state. Forgone privacy is the price the insured pay receiving personalised pricing. Many people are indeed willing to share the data, but individuals should always have to opt in to do so. Some worry that this safeguard may not be enough:

the financial costs of not sharing data may be so great that people have no real choice over whether to sign up. The second concern is the worry that more precise underwriting will create a class of uninsurable people, selected out of insurers businesses because they are too high a risk.

1. Which of the following will be said about the insurance industry?
 a) It is not well regulated in Europe and America
 b) It is plagued by frauds on the part of the policy holders , who manipulate data.
 c) It faces challenges about the use of personal data.
 d) It requires bailouts from the government.

2. The insurers got their inception in the
a) 16th century   b) 17th Century   c) 1870   d) 1902

3. Which of the following is/ are outcome(s) of smart insurance?
 A. Create awareness about one's behaviour
 B. Infringes on a policy holder's privacy
 C. Discriminates among consumers based on their behaviour
a) Only C   b) Only B & C   c) Only A & B   d) All - A , B & C

4. The graph of personal auto insurance market has got its peak of premium growth and combined ratio in the year?
a) 2020   b) 2015 c)   1975   d) 2000

5. Which of the following is the central idea of the passage?
 a) Today, customers have plenty of innovative insurance products to choose from.
 b) Insurance companies access to and use of personal data is both promoting and risky.
 c) Of all the insurance products health insurance is the most innovative and controversial.
 d) Using genetic data to access a customer's insurance premium is immoral.

6. Which of the following is true in the context of the passage?
a) Technology has made it easier to commit insurance fraud.
b) Insurance has been around for less than a century
c) The American insurance industry is the largest in the world.
d) None of the given statements is true in the context of the passage

SECTION-B- WRITING
Q.4. You are a fitness trainer in a Health Club. Design a poster in not more than 50 words, to emphasize the importance of exercise in maintaining mental and physical fitness. You are Prem/ Priya.
Or

You are a member of the SPCA(Society for the Prevention of Cruelty to Animals). Draft a poster in not more than 50 words, to create awareness on the need to prevent cruelty to animals. You are Suhas/ Suhasini.

Q.5. Write a debate on the topic **'The common man's plight has not changed in India's democracy'.**

Q.6. Write a speech in **120-150 words** on 'Exam Stress on Students' to be delivered in the morning assembly. You are Rohan/ Ruhi of class XI.

Q7. In the passage given below, one word has been omitted in each line. Write the missing word along with the word that comes before and the word that comes after against the correct blank number. Underline the word that forms your answer.

The habit of reading is one of greatest resources of mankind.   (a) ___
We enjoy reading books belong to us much more than if they   (b) ___
are borrowed. A borrowed book is like guest in the house; it must   (c) ___
be treated with punctiliousness or a certain considerate formality.
You must see that it sustains no damage; it not suffer while   (d) ___
under your roof.

Q.8. **Rearrange the words in each set to make meaningful sentences.**
a) Friends / life / good / make / our / happy / extremely.
b) not / find / now a days / easy /good / is / It / friends / to / but

Q.9. Change the following from Direct to Indirect narration.
  1.She said to her mother, "How can you be so sure that I will win the race?"
  2.Nagaswamy said to his servant, "Disappear from this place within minutes or I will kill you."
  3.Nirmala said, "Can I ever give comfort to my parents?"
  4.The woman said, "All my hard work has gone down the drain."
  5.Swati said, "What an exciting show it was!"

SECTION-C- LITERATURE
Q. 10. Read the lines given below and answer the questions asked
    "Then sleek as a lizard, and alert and abrupt,
    She enters the thickness, and a machine starts up
    Of chitterings, and a tremor of wings and trillings-
    The whole tree trembles and thrills."

a.   She in the second line is…….
b.   The whole tree trembles and thrills because…..
c.   What are the figures of speech used in the first line?

Q11. Answer the questions in 40 – 50 words:

a.   Describe how the CT scan of King Tut's mummy was carried out on 5ᵗʰ January, 2005.

b.   Describe the weather conditions on January 2 ('We're not afraid to die.. if we can all be together')

c.   What were the peculiarities in Uncle Khosrove's behaviour?

d.   Draw a pen picture of the Garoghlanian tribe members.

Q12. Answer the question in around 130-150 words-

a.   Old people face loneliness and seclusion. They need attention, care and help from us. Answer with reference to the chapter, The Portrait of a Lady. **(120-150 words)**

b.   With reference to the play, **Mother's Day**, explain how the problem faced in the story is fairly universal in nature.

Q.13.   PROJECT WORK – has to be submitted on A4 sheets put together in a File. Your submission must have a Cover page, Pictures/ Photographs/ Sketches along with your write up. You may make it colourful and vibrant.

Attempt any two activities.

 1.   Writing a blog on the topic-**"If you need to survive these moments of uncertainty, you need to be in harmony with the team" (Based on the chapter We are not afraid to die...).**

 2.   -POETRY SLAMMIN' (Writing Slam Poetry) on the Cyclic nature of rain-use rhythm, alliteration, assonance or any other figures of speech on any aspect of Nature. You may also bring in Environment Conservation or any such issue **to** make your slam poetry more effective.

 Students can write/ compose a poem on the time gone by when you were very young. Mention all that you miss of the yesteryears. Keeping in mind the poem- **A Photograph**, submit a creative write up or a poem on a special incident or time of your life that you wish to share. You may stick pictures to make it more interesting.

ENTREPRENEURSHIP

General instructions:
i.   The assignment is divided into two parts.

ii.   Part A contains a set of questions to be attempted in the business studies class register.

iii.   Part B has to be done in a project file.

<div align="center">PART A</div>

   Answer each of these questions in about fifteen words:

   1. What is an enterprise?

2. Who is an entrepreneur?

Answer each of these questions in about fifty words:

1. Explain any two advantages of being an Entrepreneur?

2. Explain any two disadvantages of being an Entrepreneur?

Answer each of these questions in about one hundred and fifty words:

1. Describe entrepreneurial functions of an entrepreneur?

2. What is the need of entrepreneurship in an economy?

HOTS: (Higher Order Thinking)

1. Differentiate between Entrepreneurial functions and Managerial functions of an Entrepreneur?

2. "Innovation is the hallmark of Entrepreneurship". Why is "innovation" referred to as the basic function of an entrepreneur?

Application Based Exercise

Shivi, a dropout from 10thstd is forced by her mother to start working as a domestic help. Shivi agrees on the condition to do only „cooking‟ in 2-3 houses. One family turns out to be Punjabi, other Gujrati and the third one is Rajasthani. She cooked their kind of food for a year and to everyone‟s surprise, she expressed her desire to open up a small eating joint of her own. All alone, determined, she finally opens „Apna Bhoj‟, a small eating joint with her savings and it becomes a hot spot because of the fusion food platter being offered. Do you think Shivi is an entrepreneur? Give reasons for your answers.

PART B

Students are supposed to do a case study on an entrepreneur and his contributions to the society

The assignment should be divided into 5 parts apart from the front pages –

• Introduction

• Early Life and Education

• Career

• Awards and recognitions

• Summary and conclusion

Use Blue/Black ball pen. No color pens are allowed on the projects. Project is supposed to be completed on A4 sheets

FMM

1. **The Chairman of Securities and Exchange Board of India is appointed by the _____.**
    1. Ministry of Finance
    2. Reserve Bank of India (RBI)
    3. Stock Exchanges
    4. None of the above

2. **Which of the following terms is not related to a stock exchange?**
   1. Knowledge Process Outsourcing (KPO)
   2. Net Asset Value (NAV)
   3. Initial Public Offering (IPO)
   4. National Stock Exchange (NSE)

3. **When was NIFTY (National Stock Exchange Fifty) established?**
   1. 1992
   2. 1998
   3. 1996
   4. 1994

4. **The headquarters of the Securities and Exchange Board of India are in_____.**
   1. Mumbai
   2. New Delhi
   3. Kolkata
   4. Chennai

5. **The Securities and Exchange Board of India meets the needs of _____.**
   1. Investors
   2. Market intermediaries
   3. Issuers of securities
   4. All of the above

6. **The total number of board members in the Securities and Exchange Board of India is __**
   1. 5
   2. 7
   3. 10
   4. 9

7. **The Securities and Exchange Board of India was constituted on _____.**
   1. 10th July 1991
   2. 11th October 1989
   3. 12th April 1988
   4. None of the above

8. **What is meant by Demat Account?**
   a.Demand Depository Account
   b.Depository Participant Account
   c.Dematerialisation of Securities
   d.Development Market Account

9. **Which of the following is not an objective of the Securities and Exchange Board of India?**
   1. To become a platform that promotes businesses.
   2. To regulate the securities market in India.
   3. To encourage development of the securities market in India.
   4. To protect investors from fraudulent activities.

10. **Which of these is a function of the stock exchange?**
    1. Role of an economic barometer
    2. Valuation of securities
    3. Encouraging investments and savings
    4. All of the above
11. **Which of these is the regulatory body for the capital markets in India?**
    1. National Bank for Agriculture and Rural Development (NABARD)
    2. Securities and Exchange Board of India (SEBI)
    3. Insurance Regulatory and Development Authority (IRDA)
    4. Reserve Bank of India (RBI)
12. **How many companies are a part of Sensex (Stock Exchange Sensitive Index)?**
    1. 20
    2. 30
    3. 50
    4. 100
13. **The markets where securities instruments are traded directly between buyer and seller are known as _____.**
    1. Secondary markets
    2. Primary markets
    3. Tertiary markets
    4. None of the above
14. **When securities are allotted to institutional investors & some selected individuals are referred to as _____.**
    a.Offer for sale
    b.Offer through prospectus
    c.Private placement
    d.Initial pubic offer
15. **In primary markets, the property of shares that make it easy to sell newly issued security is called _____.**
    1. Large funds
    2. Increased liquidity
    3. Decreased liquidity
    4. Money flow
16. **_____are the prospectus issued in place of full prospectus.**
    a) Abridged
    b) Statement in lieu
    c) Shelf
    d) Red Herring
17. **_____ prospectus were issued in case securities were issued in stages**
    a. Deemed
    b. Shelf
    c. Red Herring

d. None of the above

18. _____ prospectus were issued in order to test the market before finalizing the issue size/price
    a. Deemed
    b. Shelf
    c. Red Herring
    d. None of the above

CASE BASED QUESTIONS

1. Meca Ltd. a reputed automobile manufacturer needs Rupees ten crore as additional capital to expand its business. Atul Jaian, the CEO of the company wanted to raise funds through equity. On the other hand the Finance Manager, Nimi Sachdev said that the public issue may be expensive on account of various mandatory and non-mandatory expenses. Therefore, it was decided to allot the securities to institutional investors. Name the method through which the company decided to raise additional capital

2. Ramesh the CEO of a company thinks of going with the most popular method of raising funds used by the public companies. He discussed this option with his immediate subordinates. After discussion he realises that since his company is a private company he should think of some other option. Then they think of issuing the securities through intermediaries like issuing houses or stock brokers. When his nephew comes to know about his decision, he decides to suggest his uncle another way. He advises him to involve institutional investors which will help him raise funds more quickly and reduce many mandatory and non-mandatory expenses. After a lot of discussion the option suggested by his nephew is chosen as final.

1. In the above case identify the various methods of floatation highlighted.
2. Which method do you think will be applicable in the primary market?
3. In which type of capital market trading of only existing shares is done?
4. In which type of capital market only buying of securities is possible as securities can't be sold here?
5. Which type of capital market doesn't have fixed geographical location?

3. Rajni Auto manufacturers have decided to give a special privilege to the existing shareholders to subscribe to the new issue of shares where they will be given shares according to the proportion of shares held by them. The company always gives special treatment to loyal stakeholders. Last year the company was dealing through the capital market where both the buying and selling of securities were taking place. The owner of the company is a man of ethical business. He recently wrote an article about the watchdog of stock market. The article gained a lot of popularity and now is part of the curriculum of MBA students.

1. Which method of floatation was used by Rajni Auto manufacturers?
2. Which type of capital market was this company dealing in?
3. Which watchdog of the capital market has been referred to in the above case?
4. Name two regulatory functions of this above referred organisation?

4. Raman who is a broker in a stock exchange has to face fchallenging questions from society. His own family sometimes asks him to think about his decision to become a broker. He however, has full faith in the stock exchange. He knows that the membership of a stock exchange is properly regulated abiding the legal system and the public doing investment is safe in making deals. His children one day asked him the reason behind the ups and downs in the stock market. He clarified their doubt by telling them that forces of supply and demand decide the prices of securities in the secondary market. Off late he has decided to write a book on the functioning of stock exchange and its significance in the Indian economy. He is trying to highlight in his book how through the process of investment and disinvestment existing securities are sold and resold and savings are channelized into the most productive opportunities. Definitely Raman is justifying his presence in his job.

1. What is the meaning of Stock Exchange?
2. Identify and briefly explain the functions of Stock Exchange discussed in the above case.
3. What is an e-IPO?

PROJECT WORK (STOCK EXCHANGE)

The basis of this project is to learn about the stock market while investing a specified amount of fake money in certain stocks. Students then study the results and buy and sell as they see fit.

The students are expected to:

a) Develop a brief report on History of Stock Exchanges in India. (your country)
b) Prepare a list of at least 25 companies listed on a Stock Exchange.
c) To make an imaginary portfolio totalling a sum of Rs. 50,000 equally in any of the 5 companies of their choice listed above over a period of twenty working days.

The students may be required to report the prices of the stocks on daily basis and present it diagrammatically on the graph paper.
The students may conclude by identifying the causes in the fluctuations of prices. Normally it would be related to the front-page news of a business journal, for example,

● Change of seasons.
● Festivals.

- ● Spread of epidemic.
- ● Strikes and accidents
- ● Natural and human disasters.
- ● Political environment.
- ● Lack of faith in the government policies.
- ● Impact of changes in government policies for specific industry.
- ● International events.
- ● Contract and treaties at the international scene.
- ● Relations with the neighbouring countries.
- ● Crisis in developed countries

HISTORY

Project Work: 20 Marks
One Project to be done throughout the session, as per the existing scheme.

GROUP I : Mesopotamia
GROUP II : Roman civilisation : Early and Later : The Architectural Culture
GENERAL GUIDELINES:
- The project is to be done on inter-leaf sheets.
- The total length of the project will be 20-25 pages.
- Students have to preserve the initial drafts of the project as well as any research papers that they
  may have used.
- Students have to be prepared to give a presentation of the project in the class.
- A summary / synopsis (one page) of the project has to be prepared covering:
  The objective statement   Their observations and findings   The learning outcomes
- Any other learning from this exercise such as skills of team work, problem solving, time management, information collection, processing, analysing and synthesizing relevant information to derive meaningful conclusions;
- The projects must be neat and well-presented and must be completely hand-written.
- No whiteners to be used or written matter to be crossed out. In case of any mistakes, redo the sheet.
- Do not number sheets or write dates unless so instructed. ·
- Colour illustrations, maps, charts may be hand drawn or printed (if it is relevant for any aspect of your project) are welcome to make them look attractive.

Steps involved in the conduct of the project: Students may work upon the following lines as a suggested flow chart:
- ➤ **Choose a Title/Topic Need of the Study,**
- ➤ **Objective of the Study**
- ➤ **Hypothesis Content -Timeline, Maps, Mind maps, Pictures, etc.**
- ➤ **(Organization of Material/Data Present Material/Data)**

- ➢ **Analysing the Material/Data for Conclusion**
- ➢ **Draw the Relevant Conclusion**
- ➢ **Bibliography**

Expected Checklist for the Project Work:

• Introduction of topic/title

• Identifying the causes, events, consequences and/or remedies

• Various stakeholders and effect on each of them

• Advantages and disadvantages of situations or issues identified

• Short-term and long-term implications of strategies suggested during research

• Validity, reliability, appropriateness, and relevance of data used for research work and for presentation in the project file

• Presentation and writing that is succinct and coherent in project file

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

Assessment of Project Work:

- Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation through activities ,quiz, survey ,interviews and Conclusion.
- Viva

B. Prepare the PPT , research based comparative on the chapter Through the Eyes of the Travellers and character play it in the class.

C. Make a sample paper on :Chapters 1-3

D. Assignments on Google Classroom to be completed in the register.

HOME SCIENCE

CHAPTER-1
MEANING AND SCOPE OF HOME SCIENCE

1 mark questions

Q1. What do you understand by the term Home Science?

Q2. How does the study of Home Science strengthen the family life?

2 marks questions

Q3. Discuss the role of home science for the proper development of an individual?

Q4. How Home Science is beneficial for you as an adolescent?

Q5. Prove that the statement "In the changed atmosphere, Home Science is also necessary for the men".

3 marks questions

Q6. Home Science studies provide vast career opportunities

Q7. Name three competencies each you have developed after a study o 'Nutrition for self and family' and 'My apparel'?

Chapter - 2
UNDERSTANDING THE SELF

Multiple Choice Questions (1 Mark)

Q 1. Related to the concept of self are two other concepts _____
and _____.
a) Person and identity
b) Identity and personality
c) Identity and feelings
d) Development and realization

Q 2. Your relationship and role with others refer to _____ of self.
a) Social aspect
b) Emotional aspect
c) Physical aspect
d) Cognitive aspect

Very Short Answer Questions (1 mark)

Q 1. What do you understand by Self?
Q 2. What do you mean by Self- concept?
Q 3. What do you mean by Self- esteem?
Q 4. What do you mean by Personal Identity?
Q 5. What is Social Identity?
Q 6. What do you mean by Puberty?
Q 7. What do you mean by affectionate parenting?

Short Answer Questions (2 mark)

Q 8. What is the difference between ideal self and real self?
Q 9. In all the cultures, adolescence is filled with disagreements and
dilemmas. Explain.

Long Answer Questions

Q 10. Tell about description of self during adolescence. In which stage do they
stress on their internal qualities?
Q 11. Why is adolescence a critical time for identity development?
Q 12. Rinku and Tinku are twins. How will you say that their identity is different or
not?
Q 13. Explain the physical and biological changes occurring in boys and girls?

Sample Paper - Round 1 Examination

Q. No	SECTION A	
1.	Which of the following is not the field of home science? a. Food and nutrition b. Human Development c. Fabric and apparel d. Agriculture science	1
2.	In which state Lady Irwin College is situated? a. Mumbai b. Delhi c. Bihar d. Punjab	
3.	Your relationship and role with others refer to _____ of self. a) Social aspect b) Emotional aspect c) Physical aspect d) Cognitive aspect	
4.	Menarche usually is considered the point of _____ in girls. a) Sexual maturity b) Cognitive maturity c) Physical maturity d) Emotional maturity	1
5.	Among different fields of home science explain scope of any two fields?	2
6.	What do you mean by Home Science? List different fields of Home Science?	2
7.	Growth spurt is the characteristic of which stage of life? Which stage of life is important for the development of identity?	2
8.	a. Write three characteristics of self during early childhood? b. What is the difference between ideal self and real self?	3
9.	Suggest six ways in which knowledge of Home Science can be helpful in Self-employment.	3
10	Explain the physical and biological changes occurring in boys and girls?	4
11.	a. Rinku and Tinku are twins. How will you say that their identity is different or not and why? b. Explain how a family can help in the sense of Identity of adolescence? c. How development of Identity is different in our culture as compared to western culture?	5 (2+1+2)

INFORMATICS PRACTICES

Prepare a detailed research paper, PPT and Spiral bound file from the topic of your choice.

List of projects/ Games-

Basketball, Football, Kabaddi,

Kho-Kho, Volleyball,

Handball, Hockey, Cricket,

Bocce and Unified Basketball

Complete the Investigatory project and compile it according to the prescribed format.

- Cover page
- Certificate
- Acknowledgment
- Index
- Introduction
- Content (including pictures/graphs/tables/survey report etc.)
- Case Study
- Bibliography
- Assessment Criterion- Content, Presentation, Research Work, Case study, Viva-voce and Confidence.
- It is an individual activity and marks will be awarded in Half Yearly and Annual Examination during practical Examination.

LEGAL STUDIES

1. Define the term Aristocracy?
2. What is the parliamentary form of government? Which Countries follow such a Government model?
3. Explain the role of Legislature as an organ of government.
4. The Executive head of India is _____but the Sovereign Power is vested in_____this is the feature of _____form of Government.
5. Under which article of the constitution does we find mention of Seperation of Power? Which article provides the Supreme Court to be the Guardian of Fundamental rights?
6. What do you understand about the concept of separation of power? Legislative and executive combined together would lead to what type of government?
7. Article 32 of the constitution of India provides various types of wrist to protect the fundamental rights of citizens. Explaining the prerogative wrist along with the definitions.

8. The preamble of the Indian constitution provides a key to open the mind of constitution makers. In this pretext explain sovereign socialist secular democratic republic in the context of the preamble of Indian constitution .

SET THEORY AND RELATIONS & FUNCTION

1. Represent the following in the roster form

   i) Set of months of a year having 30 days

   ii) Set of integers between – 6 & 6

   iii) Set of vowels of English alphabets

   iv) $\{x \in N ; x^2 < 36\}$

2. Represent the following in
   set builder form i) {-1, 1}

   ii) {1, 4, 9, 16, 25, ... 121}

   iii) {1,2 ,4 ,8 , ...}

   iv) Set of odd natural numbers

3. State whether the following are true
   or false

   i) {1, 2} = {1, 1, 2, 2, 2}

   ii) {2} = {1, 2, 3}

   iii) ∅ is a subset of every set

4. Write the following intervals in set
   builder form

   i) (-4, 0)

   ii) [-6, 2)

   iii) (9, 12)

   iv) [-2, 3]

5. A & B are two sets such that n(A) = 3 and n(B) = 6. Find n($A \times B$).

6. Taking the set of natural numbers as the universal set, write the complement of the following sets

   i) {x : x is an even natural number}

   ii) {x : x is a prime number}

   iii) {x : x is a perfect square number}

   iv) {x : 2x + 5 = 9}

9. If U = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

   A = {2, 4, 6, 8}

   B = {2, 3, 5, 7, 9}

Verify

i) (A U B)' = $A' \cap B'$

ii) (A ∩ B)' = A' U B'

10. Given that A = {1, 2, 3, ..., 100} write the subset B of A whose elements are representedby x + 2, where x ∈ A

12. If A = {$4^n - 3n - 1, n \in N$}

B = {9(n – 1), n ∈ N} show that A ⊂ B

13. Prove that if A U B = C & A ∩ B = then A = C – B

14. Two finite sets have m & n elements. The total number of subsets of the first set is 56more than the total number of Subsets of the second set. Find values of m & n.

15. Using Venn diagram show the set

i) A' ∩ (B U C)

ii) (A – B) U (B – A)

16If A = {1, 3, 5}, B = {2, 4} find n (A X B)

a) 6   b) 8   c) 10   d)
                12

iii)n (B X A)

a) 6   b) 8   c) 10   d) 12

16. Given relation R on Z as R = {(a, b) Z X Z : $a^2 + b^2 \leq 4$}. The domain of R is

i) {0, 2, 4}   ii) {1, ±1, ±2}   iii) {1, 2, 3, 4}
    iv) {0, 1, 2, 3, 4}

17. Let f(x) = x² – x

g(x) = 2x be functions defined on R, findi) (f + g) (0)

a) 0   b)1   c)2   d) 3

ii) (f – g) (-1)

a) 1   b) 4   c) 5   d) 6

iii) (f.g)(2)

a) 0   b)8   c)6   d)None

18. Let R be a relation from N to N defined by R = {(a, b) : a, b ∈ N, $a = b^2$} Are the following true

ii)(a, a) ∈ R , ∀ a ∈ N

iii)(a, b) ∈ R ⇒ (b, a) ∈ R

iv) (a, b) ∈ R , (b, c) ∈ R ⇒ (a, c) ∈ R

20. If A X B = {a, 1), (a, 2), (a, 5), (b, 1), (b, 2), (b, 5)} find B X A

21. If A = {1, 2, 3}, B = {7, 9}. Let f = {(2, 9), (3, 7)}. Is 'f' a function from A to B? Why?

19. Let R be a relation defined on N as R = {(x, y) N X N : x + 2y = 39},

find the domain &range of R

20. Let A = (1, 2, 3}

    B = {3, 4}

    C = {4, 5, 6}

    find

    i) A X (B X C)

    ii) (A X B) (A X C)

21. Find domain of the functions: f(x) = [x] + x

22. Find range of the following functions

    i) f(x) = |x – 3|

    ii) f(x) = 5 sin 4x

    iii) f(x) = 5 − |x|

    iv) f(x) = 1 + 3 Cos 2x

23. Let A = {a, b}; B= {c, d}. How many relations are possible from A to B

24. Find domain and range for the functions

    i) f(x) = |x|

    ii) f(x) = sin x cos x

    iii) f(x) = sec x

25. Redefine the function given by f(x) = |x – 1| + |1 + x|, -2 ≤ x ≤ 2

26. Let A = {1, 2, 3, 4} & B = {1, 4, 9, 16, 25}. If R is a relation
    defined from A to B asR = {(x, y) : x A, y B & y = x²}

    iv)   Draw arrow diagram of R

    v) Find domain of R

    vi) Find range of R

    vii)Find co – domain of R

27. Is g = {{1, 1), (2, 3), (3, 5), (4, 7)} a function? Justify.

28.   If A = {2, 4, 6, 9}   & B = {4, 6, 18, 27, 54}

    Let R be a relation from A to B defined as R = {{a, b) : a < b & a is a factor of b}

    i) Find R

    ii) Find domain and range of R

30. Draw graph of functions f(x) = |x – 2|

31. Draw the graph of f(x) = 1 - |x + 3|

32. The function f is defined by f(x) = Draw graph of f(x)

33. If f(x) = sin x , find f(f(x)

A .Project Work:/ Case studies: 20 Marks

Class will be divided into different groups with four / five students in each group.
TOPIC ALLOTTED
Sets , Relation and function

Note: Students can use any one of below mentioned sub topics or any sub topic of their choice to make a project on sets , relation and function
Sub topics:
Integration with other subjects.

The concept of sets, relations and functions can be integrated into various other disciplines such as physics, computer science, and economics. Students can be courage to explore the connections and apply their understanding of sets, relations and functions in the contexts. Science Students will learn about the applications of sets, functions and relations in various scientific fields, such as physics, biology, and chemistry.

Real-Life Linkage:
The concept of sets relations and functions can be linked to real-life situations such as income and expenditure, population growth, and demand and supply in economics. Students will explore these connections and apply their understanding of sets, relations and functions in the contexts.
Art Integration:
The concept of sets, relations and functions can be integrated with art by exploring the graphical representation of functions. Students will create their own graphs and identify the characteristics of different types of functions. This can help them develop their creativity and
Visualization skills

Sustainable Development Goals:

The concept of sets, relations and functions can be linked to Sustainable Development Goals such as Goal8: Decent Work and Economic Growth, Goal 10: Reduced Inequalities and Goal 16: Peace, Justice, and Strong Institutions. Students will explore these connections and apply their understanding of sets, relations and functions in the contexts.
GENERAL GUIDELINES:
* The project is to be done on inter-leaf sheets.
* The total length of the project will be 15-20 pages.
* Students have to preserve the initial drafts of the project as well as any research papers that they
  may have used.
* Students have to be prepared to give a presentation of the project in the class.
* A summary/synopsis (one page) of the project has to be prepared covering:
  The objective statement Their observations and findings The learning outcomes
* Any other learning from this exercise such as skills of team work, problem solving, time management, information collection, processing, analysing and synthesizing relevant information to derivemeaningful conclusions;

- The projects must be neat and well-presented and must be completely hand-written.
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- Colour illustrations, graphs may be hand drawn or printed (if it is relevant for any aspect of
your project) are welcome to make them look attractive.

PAINTING

THEORY
Unit-I   ART-AN INTRODUCTION
A brief introduction to Elements of Art & Principles of Art ,Art and Culture and Origin and development of different Forms in Fine art in India.

SHORT ANSWER QUESTIONS   **Each Q. carry 3 marks**.
1. Define Art.
2. Difference between Warm colour and Cool colour.
3. What is the importance of shade in drawing & painting.
4. Difference between Formal & Informal spacing.
5. Define the term "vanishing point".
6. Define the "Positive and Negative space.
7. Define UNITY as one the principles of art.
8. "Colour is the spice of life.."Justify this statement.
9. "Positive and Negative space are equally important in work of art. "Justify this statement.
10. State any three major difference between Traditional Art and Modern Art.

LONG ANSWER QUESTIONS   **Each Q. carry 5 marks**
1. Write a note on Elements of art.
2. What does Perspective refers in Proportion.
3. Why LINE is considered as Element for creating Visual art.
4. Write a note on Principles of art.
5. Explain the types of art.

PRACTICAL
Students need to prepare 4 paintings on A2 size paper based on the below mentioned topic :
1. Illusion Art,
2. Pichwai painting folk art of Rajasthan,
3. Kalamkari folk art of Andhra Pradesh and
4. Mandala art.

The purpose of introducing practical exercises in painting is to help and enable the Students with Growth Values and Attitudes Rubric. The learner develops the ability to:

- Respect, appreciate and demonstrate an open mind towards the artistic expression of others.
- Appears enthusiastic and willing to study artistic expressions from other cultures or regions of the world that are very different from own.
- Accept different forms and styles and tries to explore their meaning.
- Be sensitive towards other's creations.
- Be ready to research and transfer his/her learning to his / her own art
- Be responsible for his/her own learning and progress

PHYSICAL EDUCATION

Prepare a detailed research paper, PPT and Spiral bound file from the topic of your choice.

List of projects/ Games-

Basketball, Football, Kabaddi,
Kho-Kho, Volleyball,
Handball, Hockey, Cricket,
Bocce and Unified Basketball
Complete the Investigatory project and Compile it according to the prescribed format.

- Cover page
- Certificate
- Acknowledgment
- Index
- Introduction
- Content (including pictures/graphs/tables/survey report etc.)
- Case Study
- Bibliography
- Assessment Criterion- Content, Presentation, Research Work, Case study, Viva-voce and Confidence.
- It is an individual activity and marks will be awarded in Half Yearly and Annual Examination during practical Examination.

PHYSICS

VERY SHORT ANSWER QUESTIONS

1. Name two physical quantities having the dimensions [ML^2T^{-2}].
2. Can a quantity have different dimensions in different system of units ?
3. Write the dimensional formula for coefficient of viscosity and Strain.

4. Write the number of significant figures in each of the following measurement:
 (a) 1.67×10^{-27} kg.
 (b) 0.0270 cm.
5. Can an object have an eastward velocity while experiencing a westward acceleration?
6. Is it possible for a body to be accelerated without speeding up or slowing down? If so, give an example.
7. Even when rain is falling vertically downwards, the front screen of a moving car gets wet while the back screen remains dry. Why?

SHORT ANSWER QUESTIONS

8. Find the value of 100 J on a system which has 20 cm, 250 g and half minute as fundamental units of length , mass and time.
9. The escape velocity v of a body depends on–
       (i) the acceleration due to gravity 'g' of the planet,
       (ii) the radius R of the planet.
       Establish dimensionally the relation for the escape velocity.
10. If the value of universal gravitational constant in S.I is 6.6×10^{-11} Nm^{2}kg^{-2}, then find its value in CGS System?
11. Find the dimensions of (a/b) in the equation :

$P = \dfrac{a - t^2}{bx}$ where P is pressure, x is distance and t is time

12.Given that the period T of oscillation of a gas bubble from an explosion underwater depends on P, d, and E, where the symbols are pressure, density, and total energy of the explosion. Find dimensionally a relation for T.
13. A small steel ball of radius r is allowed to fall under gravity through a column of a viscous liquid of coefficient of viscosity η. After some time, the velocity of the body attains a constant velocity v. The velocity depends on
    (i) weight of the ball mg (ii) coefficient of viscosity η and (iii) radius of ball r. Determine the relation for velocity, using the method of dimensions.

14. A driver take 0.20 second to apply the breaks (reaction time). If he is driving car at a speed of 54 kmh–1 and the breaks cause a deceleration of 6.0 ms–2. Find the distance travelled by car after he sees the need to put the breaks.

15. A ball thrown vertically upwards with a speed of 19.6 ms^{-1} from the top of a tower returns to the earth in 6s. Find the height of the tower (g = 9.8 m/s^2).
16. A ball is thrown vertically upward with a speed of 25.0m/s.

       (a) How high does it rise?

       (b) How long does it take to reach its highest point?

       (c) How long does the ball take to hit the ground after it reaches its highest point?

       (d) What is its velocity when it returns to the level from which it started?

17. If units of force, velocity and energy are 100 dyne, 10 cm/sec and 400 ergs , respectively , what will be the unit of mass, length and time ?

18. If the velocity of light c, the constant of gravitation G, and Plank's constant h be chosen as fundamental units, find the value of a gram, a centimeter, and a second in terms of new units of mass, length, and time respectively.

19. The number of particles crossing a unit area perpendicular to X-axis in unit time is

given by:

$$n = -D\frac{n_2 - n_1}{x_2 - x_1}$$

; where n1 and n2 are number of particles per unit volume for the values of x meant to be x1 and x2. Find the dimensions of diffusion constant D.

MIND MAPS :
Prepare the mind maps of following topics:
a) Units and measurements
b) Motion in a straight line

MULTI-DISCIPLINARY PROJECT : (5 marks)
Prepare a ppt (at least 10 slides) of any topic of class XI in a group of 1/2/3 students, explaining the integration of following:
Multi-disciplinary, Sports integration, Art integration, Integration with Dance & Music.

After summer vacation, you will be presenting your work (5-7 mins presentation) in the classroom. A minimum of 2 integrations must be included in the presentation.
Marks will be given based on content, creativity, innovation and presentation.

PSYCHOLOGY

MCQ
The ultimate goal of the scientific enquiry is to bring out _____ within the lives of people
[A]. Psychological changes
[B]. Sociological changes
[C]. Positive changes
[D]. Negative changes

Matters where one interviewer interviews another person is named as
[A]. Individual to group
[B]. Group to individual
[C]. Individual to other
[D]. Individual to individual

The experiments during which independent variables is chosen instead of varied or manipulated by the experimenter are called
[A]. Field experiments

[B]. Quasi-experiments
[C]. Positive experiments
[D]. Negative experiments

Which of the subsequent may be a goal of psychological enquiry?
[A]. Description
[B]. Prediction
[C]. Explanation
[D]. None of those

If you and your friend measure the length of a table using the identical instrument, it's likely that both of you'd attain the identical conclusion about its length. this is often an example of
[A]. Objectivity
[B]. Variability
[C]. Acceptability
[D]. All of the above

The steps of investigation during a research project include
[A]. Conceptualisation of an issue
[B]. Collection of information
[C]. Drawing conclusions
[D]. All of the above

In a very demographic information the knowledge includes
[A]. Psychological information
[B]. Personal information
[C]. Ecological information
[D]. Biological information

Which of the subsequent information isn't collected as psychological information?
[A]. Creativity
[B]. Interest values
[C]. Blood's oxygen levels
[D]. None of those

Psychology is defined because the scientific study of
[A]. People and things
[B]. Emotions and beliefs
[C]. Perception and religion
[D]. Mind and behavior

The word Psychology comes from
[A]. Latin
[B]. Spanish
[C]. Greek
[D]. Italian

The introspective report in an experiment is given by
[A]. Experimenter
[B]. Subject
[C]. Both the experimenter and subject
[D]. None of the above

A case study is a research method that involves an up-close, in-depth and detailed investigation of a subject of study and its related contextual position. As an important tool in psychology the students have to make a case study file on the topic - PEOPLE WHO HAVE INSPIRED ME.
INDEX

INTRODUCTION TO CASE STUDY FILE (HEADING)

EXPLAIN CASE STUDY METHOD
ADVANTAGES AND DISADVANTAGES OF THIS METHOD (2 SIDES)

PRECAUTIONS TAKEN (VOLUNTARY PARTICIPATION; INFORMED CONSENT; DEBRIEFING AND SHARING RESULTS CONFIDENTIALITY REFER TO CLASS 11TH NCERT PSYCHOLOGY BOOK)
REASONS FOR CHOOSING MY SUBJECT

RAPPORT FORMATION:
A friendly conversation was carried out to make the subject feel at ease.
I assured the subject that results would be kept confidential. All of his/her queries related to the study were clarified.

PRELIMINARIES INFORMATION:

→ NAME
→AGE
→ GENDER
→ BIRTH DATE
→ EDUCATION/ QUALIFICATION
→ LOCALITY OF RESIDENCE

DETAILED CASE STUDY OF THE INDIVIDUAL
(Refer to the below shared link for some idea about how to write the case study in a paragraph format)

https://www.upf.org/peace-education-and-human-development/peace-education-reports/3183-case-study-of-conflict-resolution-mahatma-gandhi

https://groomingurban.com/case-study-on-dr-a-p-j-abdul-kalam/

INTERVIEW QUESTIONS THAT WERE ASKED
ANY OBSERVATIONS YOU MADE

COLLAGE
Use an A3 size sheet to make a handmade poster on the topic - How social media depicts mental health vs what it actually is. #breakthestigma
For reference:

INTERNSHIP
All the students have registered themselves for the Fortis healthcare internship.
A brief report of the internship and the learnings is to be attached in the case study file.

POLITICAL SCIENCE

A . Project Work: 20 Marks
Class will be divided into six groups with four / five students in each group of 6 students.
TOPIC ALLOTTED
Group I **:** Making of the Constitution.
Group II **:** Elections in India.
Group III **:** Working of the Indian Judiciary System.
Group IV **:** Social Justice: Are ethics followed in Indian Politics
Group V **:** Human Rights Act and its gratification in India.
Group VI **:** Political impact on Indian Legislation.

GENERAL GUIDELINES:

*   The project is to be done on inter-leaf sheets.
*   The total length of the project will be 20-25 pages.
*   Students have to preserve the initial drafts of the project as well as any research papers that they
    may have used.
*   Students have to be prepared to give a presentation of the project in the class.
*   A summary / synopsis (one page) of the project has to be prepared covering:
    The objective statement **Their observations and findings** **The learning outcomes**
*   Any other learning from this exercise such as skills of team work, problem solving, time management, information collection, processing, analysing and synthesizing relevant information to derive meaningful conclusions;
*   The projects must be neat and well-presented and must be completely hand-written.
*   No whiteners to be used or written matter to be crossed out. In case of any mistakes, redo the sheet.
*   Do not number sheets or write dates unless so instructed. ·
*   Colour illustrations, maps, charts may be hand drawn or printed (if it is relevant for any aspect of
    your project) are welcome to make them look attractive.

Presentation:
1 . In the form of art form like cartoons, caricatures, posters....digital prints or sheets
2. Spontaneous speeches can also be a part of presentation. Panel discussion by students can also be presented. Role play ,songs, enactment, PPT, video......
Details of Project Work
1. The project can be **individual / pair / group of 4-5 each.** The Project can be made on the topics given in the syllabus of a particular class.

2. The suggestive list of activities for project work is as follows: - **Role Play, Skit, Presentation, Model, Field Survey, Mock Drills/Mock Event Mine craft etc. Steps involved in the conduct of the project: Students may work upon the following lines as a suggested flow chart:**
  - ➢ **Choose a Title/Topic Need of the Study,**
  - ➢ **Objective of the Study**
  - ➢ **Hypothesis Content -Timeline, Maps, Mind maps, Pictures, cartoons etc.**
  - ➢ **(Organization of Material/Data Present Material/Data)**
  - ➢ **Analysing the Material/Data for Conclusion**
  - ➢ **Draw the Relevant Conclusion**
  - ➢ **Bibliography**

<u>Expected Checklist for the Project Work:</u>
• Introduction of topic/title
• Identifying the causes, events, consequences and/or remedies
• Various stakeholders and effect on each of them
• Advantages and disadvantages of situations or issues identified
• Short-term and long-term implications of strategies suggested during research
• Validity, reliability, appropriateness, and relevance of data used for research work and for presentation in the project file
• Presentation and writing that is succinct and coherent in project file
• Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

<u>Assessment of Project Work:</u>
• Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation through activities ,quiz, survey ,interviews and Conclusion.
• Viva

B. Make a PPT, Case Study & a 2 page Newsletter on any one topic (R.NO.wise)
• <u>R.NO. 1-15   Secularism</u>
• <u>R.NO. 16-31   Local Government</u>
<u>C. Inculcate habit of reading newspaper and make short reports for further reference .</u>
<u>D. Make a sample paper on Book 1 : Indian Constitution</u>
<u>E. Assignments on Google Classroom to be completed in the register.</u>

"The key to success is effort. The bigger the goal, the greater the effort."