

BCM SCHOOL
(A Senior Secondary School affiliated to CBSE, Delhi)
SEC.32-A, CHD. ROAD, LUDHIANA
Holidays Homework (2022-23)
(Class XII- Commerce)



ENGLISH

General Instructions-

All questions are compulsory.

Do your work in English classwork notebook.

3. Do your work legibly

Question.1. Read the extracts given below and answer the questions that follow:

- (i) "If we were not so single-minded
about keeping our lives moving, and for once could do nothing, perhaps a huge silence
might interrupt this sadness
of never understanding ourselves
and of threatening ourselves with death
(a) Whom does „we“ refer to in the above lines?
(b) Why does the poet want us to „do nothing“ for once?
(c) What is the sadness“ that the poet refers to in the poem?
(d) How can a huge silence do good to us?

**(II) looked but soon
put that thought away, and
looked out at young
trees sprinting, the merry children spilling
out of their homes**

- (a) What did the narrator realize? How did she feel?**
(b) What did she do then?
(c) What did she see outside?
(d) Find words from the passage which mean (i) Running fast (ii) Happy

(iii) I was amazed to see how well I understood it. All he said seemed so easy, so easy! I think too, that I had never explained everything with so much patience. It seemed almost as if the poor man wanted to give us all he knew before going away, and to put it all into our heads at one stroke.

- (a) Who was the speaker and why was he amazed?**
(b) How did the teacher teach?
(c) How did the speaker feel about the teaching?
(d) Who is the poor man in these lines?

(iv) "It is his karam, his destiny," says Mukesh's grandmother, who has watched her husband go blind with the dust from polishing the glass of bangles. "Can a

God given lineage ever be broken?" she implies. Born in the caste of bangle makers, they have seen nothing but bangles—in the house, in the yard, in every other house, every other yard, every other street in Firozabad. Spirals of bangles—sunny gold, paddy green, royal blue, pink, purple, every colour born out of the seven colours of the rainbow—lie in mounds in unkempt yards, are piled on four-wheeled handcarts, pushed by the young men along the narrow lanes of the shanty town.

- (a) How do you view the grandmother of Mukesh?**
(b) What made her husband blind?
(c) How do the bangle makers bear colours?
(d) Where one can see the spirals of bangles?

2 Answer the following questions in about 30-40 words each:

The order from Berlin aroused a particular zeal in the school. Comment.

- (b) What idea does Pablo Neruda want to convey in his poem „Keeping Quiet“?
- (c) What impression do you form about Dr Sadao as a man and as a surgeon on your reading the chapter The Enemy“?
- (d) In what sense is garbage gold to the ragpickers?
- (e) What will now happen to the astrologer? Do you think the prophecy was indisputablydisapproved?
- (f) What was the final step taken by the servants of Sadao“s household? How did Hanareact to it?

Q 3 Answer the following questions in about 120-150 words:

- (i) How would you describe the behaviour of the Maharaja“s minions towards him? Do you find them truly sincere towards him or are they driven by fear when they obey him? Do we find a similarity in today“s political order?
- (ii) Our language is part of our culture and we are proud of it. Describe how regretful Mr.Hamel and the village elders are for having neglected their native language.

Q 4 Write a speech in 150-200 words on the topic, “ A student must know how to manage his time.” It is to be delivered in the morning assembly. You are Karan/ Karuna, Head Boy/ Head girl of the school.

Q 5 Last week as you were coming back from school you happened to see a hugeplastic bag full of leftovers of food being flung into the middle of the road from a speeding car. You wondered how people can be so devoid of civic sense. Write an article in 125-150 words on why we lack civic sense and how civic sense can be inculcated in children at a very young age. You are Shiva/Shamini.

ACCOUNTANCY

Following projects to be solved and written in Assignment Sheets as per the following groups:

PROJECT 1: Roll Nos. 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45,

PROJECT 2: Roll Nos. 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 42, 46

PROJECT 3: Roll Nos. 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, 43

PROJECT 4: Roll Nos. 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44

PROJECT 1

Mr Agam decided to start a computer business. For this purpose, he built the first floor of his house at a cost of ` 4,00,000 and invested a further sum of ` 7,00,000 in this in this business.

He wanted to start with 12 computers costing ` 80,000 each. He approached SBI and secured loan to the extent of 75% of the cost of computers. It was agreed that loan will be repaid in 4 annual instalments as follows:

At the end of the first year : ` 1,80,000 + ` 72,000 for interest

At the end of the second year : ` 1,80,000 + ` 54,000 for interest

At the end of the third year : ` 1,80,000 + ` 36,000 for interest

At the end of the fourth year : ` 1,80,000 + ` 18,000 for interest

He started business on 1st April 2017. On the same date he deposited ` 6,60,000 in the bank. He purchased computers and paid 25% of the value of computers from his bank and ` 7,20,000 out of bank loan availed. He deposited ` 20,000 for the electric connection with the electricity board and also deposited ` 3,00,000 with the VSNL for Internet and telephone connection.

He spent ` 80,000 getting the computer Café furnished and also spend ` 12,000 in getting the pamphlets printed and distributed.

All payments were to be made by cheque and all the receipts were to be deposited into bank on the same day.

At the end of the year, the results were:

| | |
|---|------------|
| Purchase of computer stationery in like floppy discs, cds extra | ` 1,84,000 |
| Revenue from fees received from students of computer classes | ` 5,40,000 |
| Revenue on account of internet facility | ` 4,40,000 |
| Revenue from sale of computer stationery | ` 3,20,000 |
| wages paid to servants | ` 24,000 |
| electricity charges | ` 96,000 |
| telephone charges | ` 1,46,000 |
| entertainment expenses | ` 14,000 |
| general expenses | ` 10,800 |

He withdrew ` 10,000 by cheque and each month for his personal expenses and duly paid the bank loan.

You are required to :

Journalise the above transactions, post them into ledger and prepare a trial balance.

Prepare Trading and Profit and loss account and Balance Sheet taking into consideration that telephone bill of ` 13,600 is yet to be paid.

Depreciate building by 5%, furniture by 20% and computer by 30%.

Write journal entries, prepare concerned ledger accounts, trial balance, Trading and Profit & Loss A/c and Balance Sheet.

PROJECT 2

After the graduation, Monalika started a business of footwear named “SHOE HUT”. Her father gave ` 3,80,000 as capital in gift. She also took a loan of ` 2,00,000 on 1st April 2021 from SBI at an interest rate of 10% per annum. She purchased a shop for ` 3,30,000 in a shopping mall and started her business from 1st April 2021. She deposited ` 10,000 for electricity connection with PSEB and ` 20,000 as a security for the shop in the mall. On the same date , she made some purchases as follows:

Furniture ` 50000 (by cash)

Goods (footwear) ` 2,00,000 (by cash)

On 1st May 2021 she transferred the savings account balance of ` 2,00,000 into current account in the name of “SHOE HUT” and treated this amount as an additional capital. On the same date, she also appointed Rahul and Rajan as salesman at the salary of ` 10,000 per month each. She paid ` 25,000 on 1st May to Mahima interiors for furnishing her showroom. All the payments were made by cheque, except wages, freight and cartage. All the receipts were in cash and were deposited into bank on the same day.

The summary of transactions which took place during the year are as follow:

Cash sales ` 17,70,000

Credit sales ` 4,50,000

Cash purchase ` 8,30,000

Credit purchase ` 1,20,000

Wages paid ` 18,000

Electricity expenses paid ` 50,000

Telephone expenses ` 35,000

Freight and cartage ` 12,000

Advertisement expenses ` 20,000

Miscellaneous expenses ` 12,000

Telephone expenses Outstanding ` 4,000

Electricity expenses due but not paid ` 12,000

She withdrew ` 10,000 per month by cheque for her personal use.

Depreciation was charged @ 5% per annum on shop and 10% per annum on furniture.

Closing stock was valued at ` 2,85,000.

You are required to journalize the above transactions. Post them into ledger and Prepare a trial balance as at 31st March 2022.

Prepare trading and profit and loss account for the year ended 31st March 2022 and Balance Sheet as at 31st March 2022.

PROJECT 3

On Feb 06, 2021 Mr Satinder wanted to starts a business. So he decided to start a business on Agro seeds. He decided to move on with Agro seeds as he had an 8 years' experience in private agro seeds business firm. He resisted to mention the firm name.

He decided to invest ` 20,00,000. He got the amount from different sources. He first received ` 6,00,000 from his father Mr Kausal from his savings on 27th Feb, 2021. He applied for a bank loan on February 10 2021 and submitted the necessary documents to State Bank of India. He got an amount of ` 5,00,000 from his fixed deposit on March 1st, 2021. He opened a bank account in State Bank of India with the name of “Golden agro seeds”. He deposited an amount of ` 10,00,000 and kept the other ` 1,00,000 as cash in hands on March 2nd 2021. On March 11, 2021 the bank loan was sanctioned and an amount of ` 7,00,000 was transfer to his account. he borrowed ` 1,46,000 from Mr Jayant on March 15, 2021 by promising him to pay an amount of ` 14,600 for 10 months and an interest of 1% per month for the total principal amount. He took a small loan for the remaining capital of ` 54,000 from Mr Ranjan on March 16, 2021, it was

interest free and he had to pay it with in December 15, 2021 that is he had to pay ` 6,000 every month. Mr Satinder withdrew ` 50,000 from the bank account on March 17, 2021

On March 17, 2021 he has ` 4,00,000 as cash in hand and 16 lakhs in his bank accounts. On March 25th 2021 he rented furnished shop by paying an advance of ` 2,00,000 through the bank account by cheque and he had to pay a rent of ` 40,000 every month. He had no employees since it was a small store and he is capable of managing alone

On April 1st, 2021 “Golden agro seeds: was started.

At the end of the year the following transactions was recorded excluding transaction made before the business started

| | |
|---|-----------|
| Purchase (credit purchase being ` 8,00,000) | 16,00,000 |
| Sales (credit sale being ` 4,00,000) | 20,00,000 |
| Rent | 4,80,000 |
| Insurance expenses | 24,000 |
| Travelling expenses | 20,000 |
| Electricity expenses | 30,000 |
| Disinfectant expenses | 40,000 |
| Wages | 16,000 |
| Service and maintenance | 12,000 |
| Shop modification | 6,000 |
| Drawings | 48,000 |
| Interest paid to Jayant | 17,520 |
| Interest paid to bank | 84,000 |
| Principal paid on bank loan | 70,000 |

On May 01, 2021 Mr Satinder brought a laptop of ` 58,000 by paying cash.

On September 8, 2021, he brought a printer worth ` 16000 through cash. You are supposed to depreciation on laptop at 10% per annum and 8% on printer.

You are required to prepare the following journal, Ledger accounts, Trial balance, Trading and profit and loss account and Balance Sheet.

PROJECT 4

Mr Kanha had 1000 shares of ICICI Limited of ` 100 each in March 2021, he sold his share @ ` 980 each. With this amount, he decided to set up a business of Kid garments on 1st April 2021 under the name of M/s Alpna kids garments. He decided that all transaction should be made through bank and deposited the whole money in Dena Bank. He purchased a running factory of kid garments consisting of factory land and building ₹4,00,000, plant and machinery `3,50,000, furniture `50,000, stock `90,000 but agreed to pay `9,50,000 as purchase consideration. He later approached his banker for a loan to meet the working capital requirements. Bank advanced loan amounting to ` 4,00,000 @ 10% per annum. He purchased a laptop for ` 30,000. His transaction for the year ended 31st March 2022 were as follows:

| | |
|--------------------------------------|-----------|
| Total purchase (8,30,000 in credit) | 12,40,000 |
| Total sales (15,25,000 in credit) | 20,50,000 |
| Wages | 2,30,000 |
| Carriage inward | 20,500 |
| Power and lighting | 15,500 |
| Salary of office and manager | 1,25,000 |
| Postage and call | 4,200 |
| Printing and stationery | 3,800 |
| Advertisements | 16,700 |
| Insurance premium | 12,100 |
| Conveyance | 13,200 |
| Cash received from debtors | 12,10,000 |
| 10% Fixed deposits in dinner Bank | 5,00,000 |
| Paid to creditors | 6,50,000 |
| Bill received from debtors | 1,00,000 |
| Bill accepted in favour of creditors | 80,000 |

Drawings during the year at the rate ` 5,000 per month.

You are required to:

Journalise these transaction and post them into ledger accounts and prepare a Trial Balance.

Prepare Trading and Profit and loss account for the year ended 31st March 2022 and Balance Sheet as at that date after considering the following adjustments:

Adjustments:

Closing stock ` 1,10,000. Depreciate land and building by 5%, Plant and machinery and furniture by 10% and computer by 25%.

Salary outstanding ` 8,000 and wages outstanding ` 15,000.

Insurance premium prepaid ` 1,200.

Accrued interest ` 25,000

You are required to prepare the following journal, Ledger accounts, Trial balance,

Trading and profit and loss account and Balance Sheet.

ECONOMICS

I Make a Project File on any one of the topics discussed in class.

II Answer the following questions in 50-60 words.

Q – 1 How do you differentiate between Capital Goods, Producer Goods and Capital Stock.

Q – 2 By giving example explain the Circular Flow of Income.

Q – 3 Out of Gross and Net Investment, which investment will have the positive affect on the economy and how?

Q – 4 What do you mean by Production Boundary? Explain it through example.

Q-5 GDP as an index of welfare may understate or overstate welfare. Explain the statement using examples of a positive and a negative externality.

Q-6 What is the difference between domestic product and national product?

Q-7 State under what conditions the following statement can be true:

Domestic income is greater than national income

Value of output is equal to value added

Q-8 Giving reasons explain the treatment of following while estimating national income:

Subsidy on output produced.

Contribution to provident fund by employee

Q-9 a) Define transfer income. Give an example. Why it is not included in national income?

b) Define intermediate consumption and explain it with an example. How is it different from final consumption?

Q –10 Read the following news report and answer Ques 10 (A)-10 (D) on the basis of the same:

Turning to growth in India, the implied real GDP growth of 4.7 per cent for 2019-20 in the second advance estimates of the National Statistics Office, released in February 2020, within the annual estimate of 5 per cent for the year as a whole is now at risk from the pandemic's impact on the economy. As regards the outlook for 2020-21, apart from the continuing resilience of agriculture and allied activities, most other sectors of the economy will be adversely impacted by the pandemic, depending upon, I repeat, its intensity, spread and duration. If COVID-19 is prolonged and supply chain disruptions get accentuated, the global slowdown could deepen, with adverse implications for India. The slump in international crude prices could, however, provide some relief in the form of terms of trade gains. Downside risks to growth arise from the spread of COVID-19 and prolonged lockdowns. Upside growth impulses are expected to emanate from monetary, fiscal and other policy measures and the early containment of COVID-19.

Q10 (A). Risk from the pandemic's impact on the economy RBI is likely to increase (Choose the correct alternative)

(a) Cash Reserve Ratio

(b) Rationing of Credit

(c) Both (a) and (b)

(d) None of these

Q10 (B). The continuing resilience of agriculture and allied activities will lead to (Choose the correct alternative)

(a) rise in aggregate supply

(b) fall in aggregate supply

(c) no change in aggregate supply

(d) fall in general price level

Q10 (C). The is vested with the responsibility of conducting monetary policy.

Q10 (D). The is vested with the responsibility of conducting fiscal policy.

BUSINESS STUDIES

Q1. Which technique of Taylor separates planning and execution functions? Explain that technique?

Q2. Harish is working as the foreman of trendz industries . At what level is he working? State any two functions performed by him?

Q3. Rajveer works as a plant superintendent in a carpet making factory. In order to complete the export orders on time, the production manager asks him to make the workers work over time whereas the finance manager is strictly against this practice because it will increase the cost of production. Moreover , Rajveer feels that since the company is manufacturing handmade carpets as well as machine made carpets there is a lot of overlapping of activities . Therefore

there should be two separate divisions for both of them wherein each division should have its own in charge, plans and execution resources. In context of the above case:

(a) identify and explain the principle of management which is being violated.

(b) also identify the principle of management that rajveer feels should be implemented in the factory.

(c) give any two differences between the principle of management as identified in part(a) and part(b) respectively.

Q4. Neeraj is selected for the post of software developer in an IT company. On the first day of his joining Mehul, his project manager tells Neeraj that during the course of his work he will come across many such opportunities which may tempt him to misuse his powers for individual or family's benefit at the cost of larger general interest of the company. In such situations, he should rather exhibit exemplary behaviour as it will raise his stature in the eyes of the company . also, for interacting with anyone in the company on official matters, he should adopt the formal chain of authority and communication.

In context of the above case:

Identify and explain the various principles of management that Mehul is advising Neeraj to follow while doing his job.

Q5. Distinguish between Taylor and Fayol on the basis of personality, Applicability, expression, unity of command

Q6. In a manufacturing company as many as 100 labourers are working in the production department. Eight specialists have been appointed to look after their work to issue command to them and to listen to their complaints. They give advice to the labourers on different issues relating to their work.

What technique of scientific management is being followed here? Explain that technique?

Which principle of management is being ignored in this case. Explain the violating effects of this principle?

Q7. Mr. Sumsham is the CEO of perfect shoes limited. Before joining this company, he used to work as management expert. The peculiarity of Mr. Khan is that he observes very minutely every small or big activity. Likewise, he gives equal importance to what is said by every junior or senior person.

He is not satisfied with the performance of the production department. This department discharges the functions of both production and stock. Both the activities of the department are in a state of chaos. Mr. Khan took personal interest to scrutinize this dismal state of affair. He found that shoes of several sizes were being made. some of the sizes were not needed. As a consequence, there was wastage of material, machines and manpower. It was the biggest weakness of the department.

During the survey of production department, Mr. Khan also noticed that many persons while doing work were making certain movements that were least needed. It slowed down the pace of production.

MR. Khan was an experienced management expert. He knows that to utilize cent- percent production capacity of the employees they need be provided healthy and clean environment. He therefore, paid special attention to this aspect. Besides, he believes that whether male or female, they must be given equal facilities, equal rights and equal opportunities for promotion.

By which technique of scientific management wastages occurring in production department can be prevented. Explain?

Highlight the technique of scientific management used to enhance the pace of work in production department.

Explain?

Which principle of management is being followed here? ? quote the lines.

What value is being offered by the company to the employees?

Q8. The principles of management are not rigid prescriptions, what does this highlight about nature of principles of management?

Q9. In one of the principles of scientific management, Taylor emphasizes that there should be equal division of work and responsibility between workers and management should work almost side by side with workers helping and smoothing the way for them . identify that principle and explain it?

Q10. Tarun is appointed as a manager of a multinational company. He is assigned the task of completing 12,000 units per month. Tarun achieved the target but at a higher cost . is the work of Tarun efficient or effective? Give reason?

Q11. Management system can be adopted and used in various non- profit making concerns like educational institutions, hospitals, clubs and societies. Which feature of management represent through this? Explain that feature?

Q12. Management is a process consists of number of functions like planning, organizing , staffing , controlling and directing. It represents which feature of management? Explain that feature?

Q13. Bharti Airtel support local schools with logistical and financial support , capacity building of teachers and infrastructure development. Which business objective is satisfied through this function?

Q14 . Hindustan entertainment company is organizing circus shows internationally for the last thirty years. Their shows have been successful across the globe . of late , their shows are not as popular as they were in the past. They are thinking of bringing in necessary changes in their shows to gain popularity. Identify which characteristics of management they reflect in their business management . Give reasons?

Q15. Sumit has completed his MBA from IIM – Bombay . He joined his family business . During one of the meeting , he started referring to management books and theories to handle customers and manage competitors. On this , his father

commented, Books give overview but it is the experience and skills which comes handy while managing customers and preparing strategies to have an edge over competitors. State and explain the nature of management that has been explained in this para?

Q16. In Uflex Ltd, the purchase department purchased 200 tonnes of flex sheet for production of flex hoarding ignoring the requisition of 150 tonnes placed by production department. As a result, there was overproduction of flex hoardings. The extra hoardings were not accepted by sales department, consequently extra hoardings remained unsold. On the basis of the given information, about Uflex Ltd. Answer the following questions:

Identify the aspect of management which is lacking in above situation?

Explain the situations when need for this aspect of management arises?

Q17. Kitchen King enterprises are producers of hand operated grinders. Now with a lot of women in the society going in for jobs there is a greater demand for a product which is more efficient and works at a great speed. On realising this change, the company decided to enter into the market for producing electronically operated mixers and grinders and food processors. Which level of management will take this decision? Explain its two functions also?

Q18. Identify the functions of management in the following:

Short listing, interviewing and selecting people to perform specific tasks in the organization.

Giving instructions, leading and motivating employees to accomplish desired goals.

Arranging physical and human resources, assigning responsibilities and authorities for effective implementation of plans.

Establishing business objectives, setting targets, drafting policies and plans to achieve the set goals

Comparing the actual results with plans and taking corrective actions if any deviation

Q19. Production manager complains that whole production is not sold in time and there is a problem of storing the finished goods. Marketing manager complains that finance department is not allowing it to clear the stocks at a discount since there will be a revenue loss. As a student of management what type of problem do you think the business is suffering from? Name the concept? Define it? Explain its three features also?

Q20. Hema is one of the most successful managers of her company, Kobe Ltd. She uses her creativity and initiative in handling challenging situations at work. The knowledge gained by her during her student days at a renowned management institute as well as through her observation and experience over the years is applied by Hema in a skillful manner in the context of the realities of a given situation. She often reads books and other literature in various fields of management to keep her knowledge updated.

(a) An aspect of the nature of management is being highlighted in the above description. Identify the aspect.

(b) Explain any three features of the aspect identified in part (a)

Q21. Mrs. Sadhna is the divisional manager of the export division of Swad tea Ltd. For some time since past a restriction has been imposed on export of tea. It is evident that the company's export business depends on the government policy. Recently there has been a change of government in the centre. As soon as the new government took over, it removed the restriction imposed on the export of tea. With the coming of this news the division under Mrs. Kidwai heaved a sigh of relief.

The change of government is having its impact on the two dimensions of business environment. Identify and explain them.

Identify and explain one of the characteristics of business environment described.

Q22. Mrs. Sadhna is the divisional manager of the export division of Swad tea Ltd. For some time since past a restriction has been imposed on export of tea. It is evident that the company's export business depends on the government policy. Recently there has been a change of government in the centre. As soon as the new government took over, it removed the restriction imposed on the export of tea. With the coming of this news the division under Mrs. Kidwai heaved a sigh of relief.

The change of government is having its impact on the two dimensions of business environment. Identify and explain them.

Identify and explain one of the characteristics of business environment described.

Q23. Management helps to implement new changes in the organization. Which importance of management is referred in the statement?

Q24. Somesh started his business of processed food items. Being the sole proprietor of business, he used to take all the decisions. When the business of Somesh expanded, he continued with the old practice of controlling all by himself. It led to delay in all important decisions. Explain the management principle violated by Somesh in the given case?

Q25. According to weights and measures Act, every eatable product should explicitly bear a green dot for vegetarian contents and brown dot for non-vegetarian ingredients. Which key component of the business environment is discussed in the given case?

MATHEMATICS

1. Express the matrix $\begin{bmatrix} 2 & -2 & -4 \\ -1 & 3 & 4 \\ 1 & -2 & -3 \end{bmatrix}$ as the sum of symmetric and skew symmetric matrix.

2. If $A = \begin{bmatrix} \cos \alpha + \sin \alpha & \sqrt{2} \sin \alpha \\ -\sqrt{2} \sin \alpha & \cos \alpha - \sin \alpha \end{bmatrix}$ prove that

$$A^n = \begin{bmatrix} \cos n\alpha + \sin n\alpha & \sqrt{2} \sin n\alpha \\ -\sqrt{2} \sin n\alpha & \cos n\alpha - \sin n\alpha \end{bmatrix} \quad \forall n \in N$$

3. Ishan wants to donate rectangular plot of land for a school in his village. When he was asked to give dimension of the plot, he told that if its length is decreased by 50 m and breadth is increased by 50 m, then its area will remain same, but length is decreased by 10m and breadth is decreased by 20m, then its area will decreased by $5300m^2$. Using matix find the dimension of the plot.

4. A trust invested some money in two types of bonds. The first bond pays 10% interest and the second bond pays 20% interest. The trust received ₹ 2800 as interest. However, if trust had interchanged money in bonds, they would have got ₹ 100 less as interest, using matrix method, find the amount invested by the trust.

The monthly income of Aryan and Babban are in ratio 3:4 and their monthly expenditures are in the ratio 5:7. If each saves ₹ 15000 per month, find their monthly incomes using matrix method.

10 student were selected from a school on the basis of values for giving awards and were divided into three groups. The first group comprises hard workers , the second group has honest and law abiding students and the third group contains vigilant and obedient students. Double the number of students of the first group added to the number in the second group gives 13 , while combined strength of first and second group is four times that of the third group. Using matrix method find the number of students in each group.

Two cricket teams honored their players for three values, excellent batting, to the point bowling and unparallel fielding by giving ₹ x, ₹ y and ₹ z per players respectively. The first team paid respectively 2,2, and 1 player for the above values with a total prize money of ₹ 11 lakhs, while the second team paid respectively 1,2 and 2 players for these values with a amounts to ₹ 9 lakhs. If the total award money for one person each for these values amount to ₹ 6 lakhs, then express the above situation as a matrix equation and find award money per person for each value.

The sum of three numbers is 6. If we multiply third number by 3 and add second number to it, we get 11. By adding first and third numbers, we get double of the second number. Represent it algebraically and find the numbers using matrix method.

9. For the matrix $A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$ show that $A^2 - 5A + 4I = o$ hence find A^{-1}

10. Use the product $A = \begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix} \begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$ to solve the system of equations $x - y + 2z = 1$, $2y - 3z = 1$, $3x - 2y + 4z = 2$.

11. If $A = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$ find AB . use this to solve the following system of equations :
 $x-y=3$, $2x+3y+4z=17$, $y+2z=7$

12. If $A = \begin{bmatrix} 1 & 2 & 0 \\ -2 & -1 & -2 \\ 0 & -1 & 1 \end{bmatrix}$ find A^{-1} . Using it solve the equations $x - 2y = 10$, $2x - y - z = 8$, $-2y + z = 7$

13. Find dy/dx when $y = \sin^{-1} \left(\frac{3 \sin x + 4 \cos x}{5} \right)$.

14. Find dy/dx when $y = \sin^{-1}(x\sqrt{1-x} - \sqrt{x}\sqrt{1-x^2})$

15. if $\sqrt{1-x^2} + \sqrt{1-y^2} = a(x-y)$ Prove that $\frac{dy}{dx} = \sqrt{\frac{1-y^2}{1-x^2}}$

16. If $y = \sqrt{x}^{\sqrt{x}^{\sqrt{x}^{\sqrt{x}^{\dots \infty}}}}$ show that $\frac{dy}{dx} = \frac{y}{2y-x}$

17. Differentiate $\tan^{-1}\left(\frac{\sqrt{1+x^2}-1}{x}\right)$ with respect to $\tan^{-1} x$.

18. If $x \in \left(\frac{1}{\sqrt{2}}, 1\right)$ differentiate $\tan^{-1}\left(\frac{\sqrt{1-x^2}}{x}\right)$ with respect to $\cos^{-1} 2x\sqrt{1-x^2}$

19. If $\sqrt{1-x^6} + \sqrt{1-y^6} = a(x^3 - y^3)$ prove that $\frac{dy}{dx} = \frac{x^2}{y^2} \sqrt{\frac{1-y^6}{1-x^6}}$ where $-1 < x < 1$ and $-1 < y < 1$.

20. if $y = \log\{x + \sqrt{x^2 + a^2}\}$ prove that $(x^2 + a^2) \frac{d^2y}{dx^2} + x \frac{dy}{dx} = 0$

21. If $x = a \cos \theta + b \sin \theta$ and $y = a \sin \theta - b \cos \theta$ prove that $y^2 \frac{d^2y}{dx^2} - x \frac{dy}{dx} + y = 0$

22. If $\sin y = x \cos(a+y)$ then show that $\frac{dy}{dx} = \frac{\cos^2(a+y)}{\cos a}$

23. If $y = \sqrt{\cos x + \sqrt{\cos x + \sqrt{\cos x + \dots \infty}}}$ prove that $(1-2y) \frac{dy}{dx} = \sin x$

24. differentiate $x^{\sin^{-1} x}$ with respect to $\sin^{-1} x$.

25. If $y = (x + \sqrt{1+x^2})^n$ then show that $(1+x^2) \frac{d^2y}{dx^2} + x \frac{dy}{dx} = n^2 y = 0$

Activities :

To demonstrate the function which is not one – one but is onto.

To verify that the relation R in the set L of all lines in a plan, defined by $R = \{(l, m) : l \text{ perpendicular to } m\}$ is symmetric but neither reflexive nor transitive.

To Draw the graph of $\sin^{-1} x$ using graph of $\sin x$ and demonstrate the concept of mirror reflection.

To find the time When the area of rectangle given dimensions become maximum if the length is decreasing and breath is increasing at given rates.

PHYSICAL EDUCATION

Physical Fitness test administration :SAI Khelo India Test (Age group 9-18yrs / class 4-12: BMI, 50 mts speed test, 600 mt run/walk, sit & reach flexibility test, strength test (Abdominal partial curl up, push ups for boys, modified push ups for girls)

Procedure for Asanas ,Benefits & Contraindications for any 2 Asanas for each Lifestyle Diseases (obesity, diabetes, asthma, hypertension).

Labelled diagram of VOLLEYBALL field and equipment, also mention its rules terminologies and skills in detail.

No pasting of pictures is allowed.

Only Rachna Sagar publication of physical education practical file should be used.

Practical files should be covered neatly and decorated with sports pictures.

HOME SCIENCE

Preparation of any one toy for children using locally available and indigenous material.

Develop a leaflet/pamphlet for consumer education and protection on any one of the following:

- A) Consumer Protection Act
- B) Consumer Responsibilities
- C) Consumer Organization
- D) Consumer Problems

Make the project already assigned.

Prepare samples using applied textile design technique:

Tie & Dye (4 samples) Block printing (1 sample)

Read all the chapters and write 20 one mark questions from each chapter.

I.P.

WEEK 1

Q. Following questions are to be done in IP register/A4 sheets.

1. Write the output of the queries (a) to (d) based on the table, Furniture given below:

Table: FURNITURE

| FID | NAME | DATE OF PURCHASE | COST | DISCOUNT |
|------|-----------------|------------------|-------|----------|
| B001 | Double Bed | 03-Jan-2018 | 45000 | 10 |
| T010 | Dining Table | 10-Mar-2020 | 51000 | 5 |
| B004 | Single Bed | 19-Jul-2021 | 22000 | 0 |
| C003 | Long Back Chair | 30-Dec-2016 | 12000 | 3 |
| T006 | Console Table | 17-Nov-2019 | 15000 | 12 |
| B006 | Bunk Bed | 01-Jan-2021 | 28000 | 14 |

(a) select sum(discount) from furniture where cost > 15000;

- (b) select max(dateofpurchase)from furniture;
- (c) select * from furniture where discount>5 and fid like "t%";
- (d) select dateofpurchase from furniture where name in("dining table", "consoletable");

2. Predict the output of the following queries:

- i. select instr('exams@cbse.nic.in','.');
- ii. select substr('exams@cbse.nic.in',7,4);
- iii. select left('exams@cbse.nic.in',5);

3. Reena is working with functions of MySQL. Explain her following:

- i. What is the purpose of now () function?
- ii. How many parameters does it accept?
- iii. What is the general format of its return type?

4. Ms.Saumya is working on a MySQL table named 'Hotel' having following structure:

| Field | Type | Null | Key | Default | Extra |
|-----------|-------------|------|-----|---------|-------|
| user_id | varchar(20) | YES | | NULL | |
| name | varchar(20) | YES | | NULL | |
| city | varchar(20) | YES | | NULL | |
| mobile_no | varchar(11) | YES | | NULL | |

She need to perform following task on the table:

- i. To fetch last 2 characters from the user_id column.
- ii. To display the values of name column in lower case.
- iii. To display 3 characters from 3rd place from the column city.

Suggest suitable SQL function for the same. Also write the query to achieve the desired task.

WEEK 2

Q. Following questions are to be done in IP register/A4 sheets.

a) Write about all following Python Sequences and their functionality by stating one example of each.

1. Strings, 2. Tuples, 3. Lists, 4. Dictionaries b) All examples are to be tried on the system as well and saved properly.

WEEK 3

Q. Create a calculator using Python. Prepare a proper documentation of all the codes and soft copy of the same needs to be submitted.

WEEK 4

Q. Create a **video assignment** on Societal Impacts and Data Protection using PowerPoint

COMPUTER SCIENCE

WEEK 1

Following questions are to be done in CS register/A4 sheets.

1. Write the output of the queries (a) to (d) based on the table, Furniture given below:

Table: FURNITURE

| FID | NAME | DATEOFPURCHASE | COST | DISCOUNT |
|------|-----------------|----------------|-------|----------|
| B001 | Double Bed | 03-Jan-2018 | 45000 | 10 |
| T010 | Dining Table | 10-Mar-2020 | 51000 | 5 |
| B004 | Single Bed | 19-Jul-2021 | 22000 | 0 |
| C003 | Long Back Chair | 30-Dec-2016 | 12000 | 3 |
| T006 | Console Table | 17-Nov-2019 | 15000 | 12 |
| B006 | Bunk Bed | 01-Jan-2021 | 28000 | 14 |

- (a) select sum(discount) from furniture where cost>15000;
- (b) select max(dateofpurchase)from furniture;
- (c) select * from furniture where discount>5 and fid like "t%";
- (d) select dateofpurchase from furniture where name in("dining table", "consoletable");

2. Predict the output of the following queries:

- i. select instr('exams@cbse.nic.in','.');
- ii. select substr('exams@cbse.nic.in',7,4);
- iii. select left('exams@cbse.nic.in',5);

3. Reena is working with functions of MySQL. Explain her following:

- i. What is the purpose of now () function?
- ii. How many parameters does it accept?
- iii. What is the general format of its return type?

4. Carefully observe the following table named 'stock':

Table: stock

| Pid | PName | Category | Qty | Price |
|-----|-------------|----------|-----|-------|
| 1 | Keyboard | IO | 15 | 450 |
| 2 | Mouse | IO | 10 | 350 |
| 3 | Wifi-router | NW | 5 | 2600 |
| 4 | Switch | NW | 3 | 3000 |
| 5 | Monitor | O | 10 | 4500 |
| 6 | Printer | O | 4 | 17000 |

Write SQL queries for the following:

- (a) To display the records in decreasing order of price.
- (b) To display category and category wise total quantities of products.
- (c) To display the category and its average price.
- (d) To display category and category wise highest price of the products.

WEEK 2

Following questions are to be done in CS register/A4 sheets Prepare a proper documentation of all the codes and soft copy of the same needs to be submitted.

Write a Python program to sum all the items in a list.

Write a Python program to get the largest number from a list.

Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings. Sample List : ['abc', 'xyz', 'aba', '1221']

Write a Python program to remove duplicates from a list.

Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).

WEEK 3

Following questions are to be done in CS register/A4 sheets Prepare a proper documentation of all the codes and soft copy of the same needs to be submitted.

Q. A blood bank maintains data file "Blood.dat" that contains following information for every donor: donor name, donor date of birth, donor address, donor phone number and donor blood group. Write a complete program to do the following:

- a) Create a file of the donor
- b) Append a record in the file
- c) Display the records
- d) Given the blood group display name, address of the donor
- e) Modify the existing information of the donor

WEEK 4

Q. Create a **video assignment** on Network topologies and Network types using PowerPoint

FINE ARTS (PAINTING)

Theory -

Learn 1 or 2 marks Questions from Unit 1 and write it in a fair Notebook.

Practical -

Two compositions

Two landscapes

One still life (copied work)

MUSIC

1. Write short notes on Gamak, Gram, Murchana, Meend, Khatka, Murki, Kan
- 2) Write the names of all the chapters of Sangeet Ratnakar and throw light on the contents of any three of them.
- 3) Write the detailed description of Jhap taal and Rupak Taal along with its tigan and chaugun.
- 4) Write a notation of drut khayal and along with its Two Alap and Taanas in Raag Bhairav.
- 5) Give a brief Description of the Time Theory of Ragas.
- 6) Write the detailed description of Raag Bageshwari.

PSYCHOLOGY

1. Frame objective type questions from chapters 1 and 4 (minimum 25 questions from each chapter) and write in your notebook with their answers.
2. Answer all the questions given in the review exercise at the end of the chapters 1 and 4.
3. PROJECT WORK : Prepare a case profile of a person, who is suffering from a mental disorder or learning disability or who has excelled in areas like sports, academics, music etc.. Prepare the case profile as per the format given in the NCERT Textbook (page no. 199). Make a beautiful cover page for your file as per the theme of your case.

NOTE: This case file will carry 5 marks in your practical exam. and you may be asked questions related to same in viva.

LEGAL STUDIES

Write an essay on Offer and Acceptance along with case law.

Discuss in detail how Discharge of Contract takes place.

What are the objectives behind having tort law?

What are the sources of tort law?

Difference between Confession and Admission.

Trace the progress and development of the contemporary Lokpal movement in India.

What are the advantages of ADR over traditional forms of dispute resolution? Discuss the similarities and differences between arbitration and litigation.

2. NHRC of India has prescribed a complaint format as given below. Use the format and prepare a complaint on any human rights violation either hypothetical or real that you may be aware of, or you may have read in the news and so on. The NHRC guidelines given below in row 3 or for reference purpose.

Format for filing a complaint with the NHRC.

Complainant's Details

Name

Sex: Male/ Female

State:

Full Address

District

Pin Code:

Incident Details

Incident Place

State

District

Date of Incident

C. Victim's Details

1. Name of the victim

2. No. of victims

3. State

4. Full address

5. District

6. Pin code

religion

D Brief summary of allegations of human rights involved:

E. Whether complaint is against members of armed forces or paramilitary forces yes or no

F Whether similar complaint has been filed before any Court or State human rights Commission

G. Name, designation and address of the public servant against whom complaint is being made

H. Name, designation and address of the authority to whom the public servant is answerable

I. Prayer or relief if any sought: