

ARMY PUBLIC SCHOOL KOTA
Class - XII COMMERCE
Holiday Home Work Session 2021-22
ACCOUNTANCY

Complete your Accountancy practical file on any one of the following topic

1. Financial Statements of a company
2. Financial Statement Analysis
3. Ratio Analysis
4. Cash Flow Statement

BUSINESS STUDIES

Complete your Business studies practical file on any one of the following topics

1. Marketing Management
2. Elements of Business Environment
3. Principal of Management
4. Stock Exchange

MATHEMATICS MATRIX – PRACTICE WORKSHEET

1. Do worksheet in your maths notebook and lab activities in maths lab manual.
2. Write questions also with answers.
3. Use blue and black pen for writing in both notebooks.
4. There are one worksheet on chapter-3 which is to be completed in vacations.
5. Draw concept map of ch-3 matrices.
6. Submit your assignment after vacations to me personally.
7. In case any query, ask me on my number.

1. Find the value of x and y if $X=Y$, where $X = \begin{bmatrix} x + 10 & y^2 + 2y \\ 0 & -4 \end{bmatrix}$ and $Y = \begin{bmatrix} 3x + 4 & 3 \\ 0 & y^2 - 5y \end{bmatrix}$

[Ans.: x=3 and y=1]

2. If $\begin{bmatrix} 2x + 1 & 5x \\ 0 & y^2 + 1 \end{bmatrix} = \begin{bmatrix} x + 3 & 10 \\ 0 & 26 \end{bmatrix}$, find the value of (x+y).

[Ans7,-3]

3. Find non-zero values of x satisfying the matrix equation: x

$$\begin{bmatrix} 2x & 2 \\ 3 & x \end{bmatrix} + 2 \begin{bmatrix} 8 & 5x \\ 4 & 4x \end{bmatrix} = 2 \begin{bmatrix} x^2 + 8 & 24 \\ 10 & 6x \end{bmatrix} \quad [\text{Ans: 4}]$$

4. If $A = \begin{bmatrix} 9 & 1 \\ 7 & 8 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 5 \\ 7 & 12 \end{bmatrix}$, find matrix C such that $5A + 3B + 2C$ is null matrix.

$$\text{Ans.: } \begin{bmatrix} -24 & -10 \\ -28 & -38 \end{bmatrix}$$

5. If $2X + 3Y = \begin{bmatrix} 2 & 3 \\ 4 & 0 \end{bmatrix}$ and $3X + 2Y = \begin{bmatrix} -2 & 2 \\ 1 & -5 \end{bmatrix}$, find X and Y. [Ans.:

$$X = \begin{bmatrix} -2 & 0 \\ -1 & -3 \end{bmatrix}, Y = \begin{bmatrix} 2 & 1 \\ 2 & 2 \end{bmatrix}]$$

6. Under what condition is the matrix equation $A^2 - B^2 = (A - B)(A + B)$ is true? [Ans: $AB = BA$]

7. If $AB = A$ and $BA = B$, then show that $A^2 = A, B^2 = B$.

8. If $A = \begin{bmatrix} 1 & -3 & 1 \\ 0 & 2 & -1 \\ 2 & 1 & 3 \end{bmatrix}$, $B = \begin{bmatrix} -1 & 0 & 1 \\ 5 & 4 & 6 \\ 2 & 1 & 1 \end{bmatrix}$ and $C = \begin{bmatrix} -1 & -2 & 1 \\ 1 & -2 & 2 \\ 2 & -1 & 1 \end{bmatrix}$

Then verify that (i) $A(BC) = (AB)C$ (ii) $(A+B)C = AC + BC$

$A = \begin{bmatrix} 3 & -5 \\ -4 & 2 \end{bmatrix}$, find $A^2 - 5A - 14I$. Hence, 9. If find A^3 .

$$\left[\text{Ans.: } O, \begin{bmatrix} 187 & -195 \\ -156 & 148 \end{bmatrix} \right]$$

$A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$, show that $A^2 - 5A + 7I = O$ 10. If.

11. If $A = \begin{bmatrix} 0 & 0 \\ 5 & 0 \end{bmatrix}$ find A^{16} .

$$[\text{Ans.: } \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}]$$

12. If $A = \begin{bmatrix} 1 & 0 & 2 \\ 0 & 2 & 1 \\ 2 & 0 & 3 \end{bmatrix}$, and $A^3 - 6A^2 + 7A + KI_3 = O$, find k. [CBSE-2016]

13. Find the matrix A such that $\begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix} A = \begin{bmatrix} -1 & -8 & -10 \\ 1 & -2 & -5 \\ 9 & 22 & 15 \end{bmatrix}$.

$$[\text{Ans.: } \begin{bmatrix} 1 & -2 & -5 \\ 3 & 4 & 0 \end{bmatrix}]$$

14. Find x if $\begin{bmatrix} 1 & x & 1 \\ 4 & 5 & 6 \\ 3 & 2 & 5 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} = 0$.

$$[\text{Ans.: } \frac{-9}{8}]$$

15. If $A^2 = A$, prove that $(I + A)^3 = 7A + I$

16.(a)The co-operative store of a particular school has 10 dozen physics books, 8 dozen chemistry books and 5 dozen maths books. Their selling prices are Rs. 45, 40 and 30 each respectively. Find the total amount the store will receive by selling all books.

(b) In a parliament election, a political party hired a public relation company to promote its candidates in three ways: telephone, house calls and letters. The cost per contact is given in

$$\text{one} \begin{bmatrix} 50 \text{ paise} \\ 160 \text{ paise} \\ 40 \text{ paise} \end{bmatrix} \begin{matrix} \text{Teleph} \\ \text{House call} \\ \text{Letter} \end{matrix}$$

the following Matrix p as p=

The number of contact of each type made by the party in two cities A and B is given by the matrix

$$\begin{matrix} \text{Telephone} & \text{House call} & \text{Letter} \\ \text{Q} = \begin{bmatrix} 2000 & 250 & 10000 \\ 4000 & 500 & 8000 \end{bmatrix} \end{matrix} \begin{matrix} \rightarrow A \\ \rightarrow B \end{matrix}$$

Find the total amount spent by the party in the cities A and B.

[Ans.(a)11040(b)Rs.5400 and 6000]

17.A trust invested some money in two type of bonds. The first bond pay 10% interest and second bond pays 12% interest. The trust received Rs.2800 as interest. However, if trust had interchanged money in bonds, they would have got Rs.100 less as interest. Using matrix method, find the amount invested by trust. [Ans: Rs.10000, Rs.15,000]

18.Let $A = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 1 \\ 0 & 0 & 1 \end{bmatrix}$ prove by P.M.I that $A^n = \begin{bmatrix} 1 & n & n(n+1)/2 \\ 0 & 1 & n \\ 0 & 0 & 1 \end{bmatrix}$ For all positive integer.

19.If $A = \begin{bmatrix} a & b \\ 0 & 1 \end{bmatrix}$ and $a \neq 1$ prove by P.M.I that $A^n = \begin{bmatrix} a^n & \frac{b(a^n-1)}{a-1} \\ 0 & 1 \end{bmatrix}$ for all natural number.

20.If $A = \begin{bmatrix} \cos \alpha + \sin \alpha & \sqrt{2} \sin \alpha \\ -\sqrt{2} \sin \alpha & \cos \alpha - \sin \alpha \end{bmatrix}$, prove that $A^n = \begin{bmatrix} \cos n\alpha + \sin n\alpha & \sqrt{2} \sin n\alpha \\ -\sqrt{2} \sin n\alpha & \cos n\alpha - \sin n\alpha \end{bmatrix}$ for all natural number.

21. If $A = \begin{bmatrix} 1 & -2 \\ 3 & 0 \\ 5 & 6 \end{bmatrix}$, $B = \begin{bmatrix} 0 & -3 & 4 \\ 1 & 2 & 0 \end{bmatrix}$, prove that $(AB)^t = B^t A^t$.

.At.

22. If $A = \begin{bmatrix} \cos\alpha & \sin\alpha \\ -\sin\alpha & \cos\alpha \end{bmatrix}$, verify that $AA^t = I_2 = A^t A$.

23. If $A = \begin{bmatrix} 0 & 2y & z \\ x & y & -z \\ x & -y & z \end{bmatrix}$ is a matrix satisfying $A^t A = I_3$, find x, y and z . [Ans.: $x = \pm \frac{1}{\sqrt{2}}$,

$$y = \pm \frac{1}{\sqrt{6}} \text{ and } z = \pm \frac{1}{\sqrt{3}}$$

24. If $A = \begin{bmatrix} \cos\alpha & \sin\alpha \\ -\sin\alpha & \cos\alpha \end{bmatrix}$, find α satisfying $0 < \alpha < \frac{\pi}{2}$ when $A + A^t = \sqrt{2}I_2$, where A^t is transpose of A .

25. If $l_i, m_i, n_i; i = 1, 2, 3$ denoted the direction cosine of three mutually

perpendicular vectors in space, prove that $AA^t = I$, where $A = \begin{bmatrix} l_1 & m_1 & n_1 \\ l_2 & m_2 & n_2 \\ l_3 & m_3 & n_3 \end{bmatrix}$

26. Express $\begin{bmatrix} 2 & 4 & -1 \\ 3 & 5 & 8 \\ 1 & -2 & 1 \end{bmatrix}$ as the sum of a symmetric and a skew-symmetric matrix.

$$\text{Ans.: } \begin{bmatrix} 2 & 7/2 & 0 \\ 7/2 & 5 & 3 \\ 0 & 3 & 1 \end{bmatrix} + \begin{bmatrix} 0 & 1/2 & -1 \\ -1/2 & 0 & 5 \\ 1 & -5 & 0 \end{bmatrix}$$

27. If A and B are symmetric matrices of the same order, prove that, AB is symmetric iff A and B commute i.e. iff $AB = BA$.

28. If A and B are square matrix of same order and A is skew-symmetric, prove that $B^t AB$ is also skew-symmetric.

29. If A and B are symmetric matrices of the same order. Show that $A - B$ is also symmetric.

30. If A is any square matrix, show that $\frac{1}{2}(A + A^t)$ is symmetric and $\frac{1}{2}(A - A^t)$ is skewsymmetric.

31. Prove that a matrix which is both symmetric as well as skew-symmetric is a null matrix.

32. Using elementary transformations evaluate inverse of following matrices.

a) $\begin{bmatrix} 2 & 3 \\ -2 & 4 \end{bmatrix}$

- b) $\begin{bmatrix} 0 & 1 \\ 6 & 5 \end{bmatrix}$
- c) $\begin{bmatrix} 6 & 9 \\ 2 & 3 \end{bmatrix}$
- d) $\begin{bmatrix} 5 & 4 \\ 6 & -4 \end{bmatrix}$
- e) $\begin{bmatrix} 2 & 0 & -1 \\ 5 & 1 & 0 \\ 0 & 1 & 3 \end{bmatrix}$
- f) $\begin{bmatrix} 0 & 1 & 2 \\ 5 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$
- g) $\begin{bmatrix} 2 & -3 & 3 \\ 1 & 5 & 9 \\ 6 & 4 & 7 \end{bmatrix}$
- h) $\begin{bmatrix} 3 & -1 & -2 \\ 2 & 0 & -1 \\ 3 & -5 & 0 \end{bmatrix}$

SUBJECT- ECONOMICS

A.) Art integrated activity :-

1. The Economic impact of COVID -19 on India –

- i.) Quantifying the impact
- ii.) What is the expectation in our baseline scenario?
- iii.) What if things get worse?
- iv.) Sharp rise in unemployment
- v.) Stress on supply chain
- vi.) Decrease in government income
- vii.) Collapse of the tourism industry
- viii.) Collapse of the hospitality industry
- ix.) Reduced consumer activity
- x.) Plunge in fuel consumption. Rise in LPG sales
- xi.) Trade tensions with China

2. Farm Bill 2020 :-

- i.) Minimum Support Price meaning and its pros/cons
- ii.) The farmers (empowerment and protection) agreement on price assurance and farm service act 2020
- iii.) The essential commodities (amendments) bill 2020

- iv.) Indian farmers protest 2020
- v.) Will the new bill bring the changes?
- vi.) Will farmers get minimum support price?
- vii.) Why are protests vociferous in some states?
 - viii.) The farmers produce trade and commerce (promotion and facilitation) act, 2020
 - ix.) Impact of new farm act 2020 on farmers and markets.

3. Disinvestment of LIC :-

- i.) Meaning of disinvestment
- ii.) Merits and demerits of disinvestment
- iii.) Explaining the rationale behind the LIC Disinvestment policy
- iv.) Adverse employee reaction to the disinvestment
- v.) Ways to disinvestment
- vi.) Disinvestment – a historical perspective
- vii.) Implication of disinvestment of LIC on Indian economy

4. Privatization of public banks :-

- i.) History of privatization of Banks in India
- ii.) Why govt. wants to privatize Banks?
- iii.) Are private banks doing better?
- iv.) Advantages and disadvantages of Privatization
- v.) Impact of privatization on Indian economy

INSTRUCTIONS :-

- i.) Students will do any two activities of their choice.
- ii.) Students can explain these activities with the help of flow chart/ mind map/poster/PPT/pictorial presentation etc. **(no need to make project file)**
- iii.) Evaluation will be done on the basis of content, presentation and creativity.

B). Long answer type questions:-

1. “ During the British rule, despite being the occupation of 85% of India’s population the agriculture sector continued to experience stagnation and, not infrequently, unusual deterioration , agricultural productivity become low.”

Do you agree with the above statement? Give valid reason in support of your answer.

2. “Under the Colonial regime, basic infrastructure such as railways, ports, water transport, posts and telegraph develop . However, the real motive behind infrastructure development was not to provide basic amenities to the people but to subserve various colonial interests.”

What objectives did the British intend to achieve through their policies of infrastructure development in India?

3. “The social and economic challenges before India at the time of independence were enormous.”

Do you agree with the statement? Give reasons.

4. “The green revolution would have favoured the rich farmers only if the state did not play an extensive role in ensuring that the small farmers also gains from the new technology.”

Do you agree with the above statement? Give valid reasons in support of your answer.

5. “The achievements of India’s industrial sector during the first seven plans was impressive indeed.” Do you agree with the above statement? Give valid reasons in support of your answer.

6. Critically evaluate the ‘licensing system’ and ‘import substitution policy’ under the industrial and trade policies.

ENGLISH Holiday homework 2021-22

Q1. Pick one unseen passage from any English newspaper, make notes, write summary on it and also frame five questions for the same and answer them (attach the reference passages in your notebook.)

Q2. Draft two Advertisements, each for 'Situation Vacant' and 'Sale and Purchase' columns.

Q3. Draft two posters on 'Relief to Earthquake victims' and 'Indian Fest: IPL' (On A4 Size Paper)

Q4. Write Articles on:-

1. Election in Democracy
2. Social Media- a boon or bane.

Q5. Prepare a write up of two minutes of any topic of your choice followed by 3 questions to be part of 'Topic Presentation' of ASL.

Q6. Revise the Literature part that has already been done in the classes. Read the chapters of Vistas. Summarize the lessons that you read in points.

HINDI Holiday Homework 2021-2022

- 1) भक्ति, बाजार दर्शन, सिल्वर वेडिंग पाठों का सारांश अपने शब्दों में लिखिए।
- 2) जनसंचार माध्यम, जनसंचार माध्यम की विधाएं।
- 3) रिपोर्ट कोई भी पांच
- 4) आलेख लेखन कोई भी पांच
- 5) परियोजना कार्य कोई भी एक लेखक या कवि लेकर कम से कम 20 से 25 पेज में एक फाइल बनानी है।

आर्मी पब्लिक स्कूल कोटा
ग्रीष्मकालीन अवकाश गृह कार्य
कक्षा -12वीं
विषय-हिंदी
1) भक्ति, बाजार दर्शन, सिल्वर वेडिंग पाठों का सारांश अपने शब्दों में लिखिए।
2) जनसंचार माध्यम, जनसंचार माध्यम की विधाएं।
3) रिपोर्ट कोई भी पांच
4) आलेख लेखन कोई भी पांच
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XII -Informatics Practices Holiday Homework 2021-2022

Do the worksheet .

Q.1- Multiple Choice Questions:

- a) What is the full form of SQL?
- a) Structured Query language b) Structured query list
- c) Simple Query language d) None
- b) Tuple refers to-----
- a) Number of rows b) Number of columns
- c) A row in a relation d) A column in a relation
- c) Which operator perform pattern matching.
- a) Between Operator b) Like Operator
- c) Exist Operator d) All of the above
- d) Which SQL keyword is used to sort the result set?
- a) Sort By b) Order c) Order By d) Sort
- e) Which is/are not an aggregate function?
- a) Avg() b) Count() c) Sum() d) Select()

Q.2- Fill in the blanks.

- a) _____ is a virtual table that does not really exist.
- b) _____ is a fixed length data types.
- c) _____ Command is used to create table in database.
- d) Number of attributes is known _____ in a relation.
- e) _____ is used to remove a database.

Q.3- a) State the use of foreign key in relational database.

- b) What is a primary key?
- c) Write down SQL statement for creating table LIBRARY having following attributes:
- i. BOOK_ID – an integer, primary key of the table
- ii. BOOK_TITLE –a string

iii. AUTHOR—a string

iv. QTY – an integer

v. PRICE – a real number

Q.4-a) What types of commands are used in following categories?

(1) DDL

2) DML

b) What is Group By command in SQL? Write difference between Having and Where Clause.

c) Write difference between % and _ wildcard characters with reference to like clause in SQL.

d) Explain all Character and Maths functions in SQL.

e) Define the term Database & RDBMS. **Q.5-a)** Write SQL query to create the following table

Table: STUDENT

Column name	Data type	size	Constraint
ROLLNO	Integer	4	Primary Key
SNAME	Varchar	25	Not Null
GENDER	Char	1	Not Null
DOB	Date		Not Null
FEES	Integer	5	Not Null

b) Consider the following table

Table: Teacher

ID	Name	Department	Hiredate	Cate	Gender	Salary
				gory		

1	Tanya Nanda	SocialStudies	1994-03-17	TGT	F	25000
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2	Saurabh	Art	1990-02-12	PRT	M	20000
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Sharma

3	Nandita Arora	English	1980-05-16	PGT	F	30000
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4	James Jacob	English	1989-10-16	TGT	M	25000
5	Jaspreet Kaur	Hindi	1990-08-01	PRT	F	22000
6	Disha Sehgal	Math	1980-03-17	PRT	F	21000
7	Sonali	Math	1980-11-17	TGT	F	24500

Mukherjee

Write the command/output for the Following-

- a) To display all the information about teacher.
- b) To display name of teachers of math department.
- c) To display the list of teachers whose name start with J.
- d) To list the name of all the teachers in ascending order of their name.
- e) select max(salary),min(salary) from teacher;
- f) Select count(*) from teacher where category='TGT';
- g) select name , department, hiredate from teacher
where salary>=25000;

PHYSICAL EDUCATION PRACTICAL

FILE COMPLETION

Practical-1: Fitness tests administration for all items.

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

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

Practical-4: Any one game of your choice out of the list above. Labelled diagram of field & equipment (Rules, Terminologies & Skills).

Emotional Health and Well-being Holiday Homework 2021-2022

1. Thankful Pictures

During the week, take pictures of things you're thankful for. Then combine them into a slideshow, collage, or other collection to revisit and add to.

2. **Write and Reflect**

Write down your feelings, emotions and thoughts in a page covering the following two areas :

*How have your thoughts and feelings about the pandemic changed since it began last spring?

*How has the pandemic changed you, for better or worse?

Send your holiday homework to School Counselor Mrs. Swati Gautam on what's app number 9587665976.

All the best