KENDRIYA VIDYALAYA
PANISAGAR
SESSION- 2023-2024
HOLIDAY HOMEWORK
CLASS- XII - BIOLOGY

Investigatory project on -

1) Malaria
2) Amoebic dysentery
3) Thyroidism - Hypo and Hyper
4) Biodiversity
5) Contraception
6) Sexually Transmitted Diseases
7) Vaccination
8) Asthma and Allergic Reactions
9) Immune system - Structure and Function in Human
10) Genetic Mutation
11) Cancer
12) Covid-19
13) The search for genetic matter
14) Ascariasis
15) Elephantiasis
16) Drug and alcohol abuse in adolscents.
17) Apiculture
18) Aquaculture
19) Plant breeding
20) Role of microbes in human society
21) Recombinant DNA Technology - Tools and process.

22) Infertility

23) Zoonosis

24) Water borne diseases

25) Plastics - a boon or a curse

26) E. coli - a pollution indicator

27) Typhoid.

Reema Kotri

Signature of
subject Teacher

KENDRIYA VIDYALAYA PANISAGAR

SUMMER VACATION HOME WORK -2023-24

CLASS-XII SUBJECT: - CHEMISTRY

1. Write 10 extra multiple choice /short answer type questions from chapter 1,2 and 3

2. Learn chapters 1,2 & 3.

3 Complete your notes and exercises solution for chapters 1st to 3rd.

KENDRIYA VIDYALAYA PANISAGAR

2023-24

Summer Vacation Activities

Physical and Health Education

Class-12

Activity-1

Make a chart or model on anyone of the following topic of your choice.

g) Indian/International Sports Personality
h) Dimensions of a sport court/field
i) Indian Olympic Winners
j) List of all the sports conducted at Summer Olympics.
k) Indian Paralympic Winners of 2020 Tokyo Games.
l) National Sports Awards.

Activity-2

Learn and Draw the Volleyball Court.

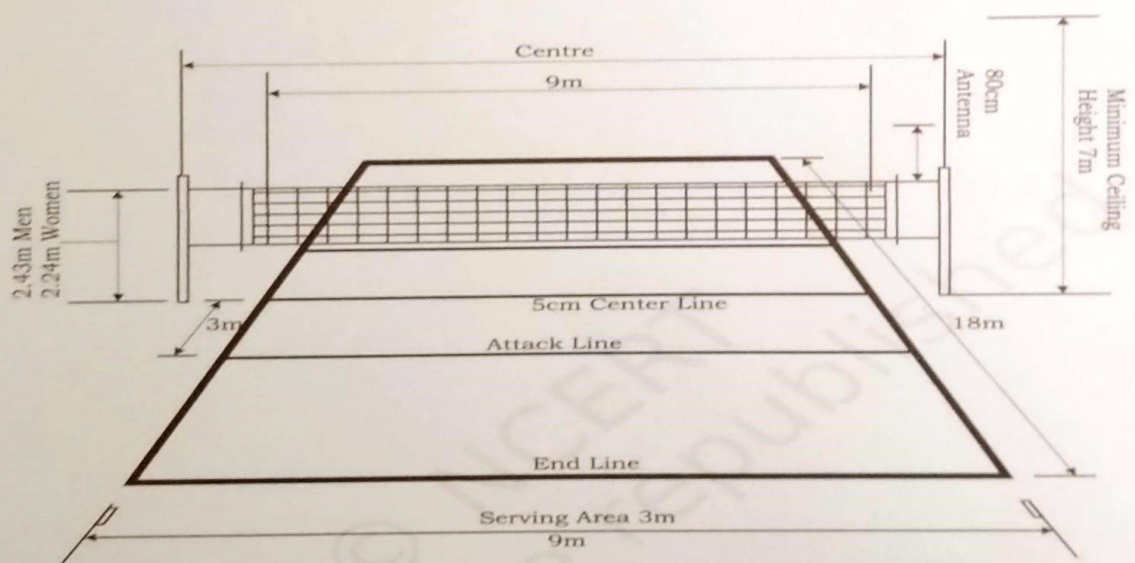

Fig. 5.51: Court and net specifications in volleyball

Note:

1. **Date of Submission of your work is 19.6.2023**

Mrs. Meenakshi Saini
TGT(P&HE)
K.V.Panisagar

Dr. Sagir Ahamad
Principal I/C
K.V.Panisaga

KENDRIYA VIDYALAYA PANISAGAR

SUMMER VACATION HOMEWORK (2023-24)

Class Xii

1.Learn the completed chapters.

2. Do 10-15 numericals (write in your physics notebook) from previous year question

3. Complete the notecopy.

4. Complete the ncert book exercise.

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SUMMER VACATION HOME WORK -2023-24

CLASS-XII SUBJECT: - COMPUTER SCIENCE

1) Write a program that returns True if the input number is an even number, False otherwise.
2) Write a python program that calculates and prints the number of seconds in a year.

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KENDRIYA VIDYALAYA PANISAGAR

HOLIDAY HOMEWORK

SESSION 2023-24

CLASS 12

SUBJECT- MATHEMATICS

EXERCISE 3.2

1. Let $A=\begin{bmatrix}2 & 4\\ 3 & 2\end{bmatrix}, B=\begin{bmatrix}1 & 3\\ -2 & 5\end{bmatrix}, C=\begin{bmatrix}-2 & 5\\ 3 & 4\end{bmatrix}$

Find each of the following:

(i) $A+B$ (ii) $A-B$ (iii) $3A-C$

(iv) AB (v) BA

2. Compute the following:

(i) $\begin{bmatrix}a & b\\ -b & a\end{bmatrix}+\begin{bmatrix}a & b\\ b & a\end{bmatrix}$ (ii) $\begin{bmatrix}a^2+b^2 & b^2+c^2\\ a^2+c^2 & a^2+b^2\end{bmatrix}+\begin{bmatrix}2ab & 2bc\\ -2ac & -2ab\end{bmatrix}$

(iii) $\begin{bmatrix}-1 & 4 & -6\\ 8 & 5 & 16\\ 2 & 8 & 5\end{bmatrix}+\begin{bmatrix}12 & 7 & 6\\ 8 & 0 & 5\\ 3 & 2 & 4\end{bmatrix}$ (iv) $\begin{bmatrix}\cos^2 x & \sin^2 x\\ \sin^2 x & \cos^2 x\end{bmatrix}+\begin{bmatrix}\sin^2 x & \cos^2 x\\ \cos^2 x & \sin^2 x\end{bmatrix}$

3. Compute the indicated products.

(i) $\begin{bmatrix}a & b\\ -b & a\end{bmatrix}\begin{bmatrix}a & -b\\ b & a\end{bmatrix}$ (ii) $\begin{bmatrix}1\\ 2\\ 3\end{bmatrix}\begin{bmatrix}2 & 3 & 4\end{bmatrix}$ (iii) $\begin{bmatrix}1 & -2\\ 2 & 3\end{bmatrix}\begin{bmatrix}1 & 2 & 3\\ 2 & 3 & 1\end{bmatrix}$

(iv) $\begin{bmatrix}2 & 3 & 4\\ 3 & 4 & 5\\ 4 & 5 & 6\end{bmatrix}\begin{bmatrix}1 & -3 & 5\\ 0 & 2 & 4\\ 3 & 0 & 5\end{bmatrix}$ (v) $\begin{bmatrix}2 & 1\\ 3 & 2\\ -1 & 1\end{bmatrix}\begin{bmatrix}1 & 0 & 1\\ -1 & 2 & 1\end{bmatrix}$

(vi) $\begin{bmatrix}3 & -1 & 3\\ -1 & 0 & 2\end{bmatrix}\begin{bmatrix}2 & -3\\ 1 & 0\\ 3 & 1\end{bmatrix}$

4. If $A=\begin{bmatrix}1 & 2 & -3\\ 5 & 0 & 2\\ 1 & -1 & 1\end{bmatrix}$, $B=\begin{bmatrix}3 & -1 & 2\\ 4 & 2 & 5\\ 2 & 0 & 3\end{bmatrix}$ and $C=\begin{bmatrix}4 & 1 & 2\\ 0 & 3 & 2\\ 1 & -2 & 3\end{bmatrix}$, then compute (A+B) and (B – C). Also, verify that A + (B – C) = (A + B) – C.

5. If $A=\begin{bmatrix}\frac{2}{3} & 1 & \frac{5}{3}\\ \frac{1}{3} & \frac{2}{3} & \frac{4}{3}\\ \frac{7}{3} & 2 & \frac{2}{3}\end{bmatrix}$ and $B=\begin{bmatrix}\frac{2}{5} & \frac{3}{5} & 1\\ \frac{1}{5} & \frac{2}{5} & \frac{4}{5}\\ \frac{7}{5} & \frac{6}{5} & \frac{2}{5}\end{bmatrix}$, then compute 3A – 5B.

6. Simplify $\cos\theta\begin{bmatrix}\cos\theta & \sin\theta\\ -\sin\theta & \cos\theta\end{bmatrix}+\sin\theta\begin{bmatrix}\sin\theta & -\cos\theta\\ \cos\theta & \sin\theta\end{bmatrix}$

7. Find X and Y, if

(i) $X+Y=\begin{bmatrix}7 & 0\\ 2 & 5\end{bmatrix}$ and $X-Y=\begin{bmatrix}3 & 0\\ 0 & 3\end{bmatrix}$

(ii) $2X+3Y=\begin{bmatrix}2 & 3\\ 4 & 0\end{bmatrix}$ and $3X+2Y=\begin{bmatrix}2 & -2\\ -1 & 5\end{bmatrix}$

8. Find X, if $Y=\begin{bmatrix}3 & 2\\ 1 & 4\end{bmatrix}$ and $2X+Y=\begin{bmatrix}1 & 0\\ -3 & 2\end{bmatrix}$

9. Find x and y, if $2\begin{bmatrix}1 & 3\\ 0 & x\end{bmatrix}+\begin{bmatrix}y & 0\\ 1 & 2\end{bmatrix}=\begin{bmatrix}5 & 6\\ 1 & 8\end{bmatrix}$

10. Solve the equation for x, y, z and t, if $2\begin{bmatrix}x & z\\ y & t\end{bmatrix}+3\begin{bmatrix}1 & -1\\ 0 & 2\end{bmatrix}=3\begin{bmatrix}3 & 5\\ 4 & 6\end{bmatrix}$

11. If $x\begin{bmatrix}2\\ 3\end{bmatrix}+y\begin{bmatrix}-1\\ 1\end{bmatrix}=\begin{bmatrix}10\\ 5\end{bmatrix}$, find the values of x and y.

12. Given $3\begin{bmatrix}x & y\\ z & w\end{bmatrix}=\begin{bmatrix}x & 6\\ -1 & 2w\end{bmatrix}+\begin{bmatrix}4 & x+y\\ z+w & 3\end{bmatrix}$, find the values of x, y, z and w.

13. If $F(x)=\begin{bmatrix}\cos x & -\sin x & 0\\ \sin x & \cos x & 0\\ 0 & 0 & 1\end{bmatrix}$, show that $F(x)\,F(y) = F(x+y)$.

14. Show that

(i) $\begin{bmatrix}5 & -1\\ 6 & 7\end{bmatrix}\begin{bmatrix}2 & 1\\ 3 & 4\end{bmatrix} \neq \begin{bmatrix}2 & 1\\ 3 & 4\end{bmatrix}\begin{bmatrix}5 & -1\\ 6 & 7\end{bmatrix}$

(ii) $\begin{bmatrix}1 & 2 & 3\\ 0 & 1 & 0\\ 1 & 1 & 0\end{bmatrix}\begin{bmatrix}-1 & 1 & 0\\ 0 & -1 & 1\\ 2 & 3 & 4\end{bmatrix} \neq \begin{bmatrix}-1 & 1 & 0\\ 0 & -1 & 1\\ 2 & 3 & 4\end{bmatrix}\begin{bmatrix}1 & 2 & 3\\ 0 & 1 & 0\\ 1 & 1 & 0\end{bmatrix}$

15. Find $A^2 - 5A + 6I$, if $A=\begin{bmatrix}2 & 0 & 1\\ 2 & 1 & 3\\ 1 & -1 & 0\end{bmatrix}$

16. If $A=\begin{bmatrix}1 & 0 & 2\\ 0 & 2 & 1\\ 2 & 0 & 3\end{bmatrix}$, prove that $A^3 - 6A^2 + 7A + 2I = 0$

17. If $A=\begin{bmatrix}3 & -2\\ 4 & -2\end{bmatrix}$ and $I=\begin{bmatrix}1 & 0\\ 0 & 1\end{bmatrix}$, find k so that $A^2 = kA - 2I$

18. If $A=\begin{bmatrix}0 & -\tan\frac{\alpha}{2}\\ \tan\frac{\alpha}{2} & 0\end{bmatrix}$ and I is the identity matrix of order 2, show that

$$I + A = (I - A)\begin{bmatrix}\cos\alpha & -\sin\alpha\\ \sin\alpha & \cos\alpha\end{bmatrix}$$

EXERCISE 3.3

1. Find the transpose of each of the following matrices:

(i) $\begin{bmatrix} 5 \\ \frac{1}{2} \\ -1 \end{bmatrix}$ (ii) $\begin{bmatrix} 1 & -1 \\ 2 & 3 \end{bmatrix}$ (iii) $\begin{bmatrix} -1 & 5 & 6 \\ \sqrt{3} & 5 & 6 \\ 2 & 3 & -1 \end{bmatrix}$

2. If $A = \begin{bmatrix} -1 & 2 & 3 \\ 5 & 7 & 9 \\ -2 & 1 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} -4 & 1 & -5 \\ 1 & 2 & 0 \\ 1 & 3 & 1 \end{bmatrix}$, then verify that

(i) $(A + B)' = A' + B'$, (ii) $(A - B)' = A' - B'$

3. If $A' = \begin{bmatrix} 3 & 4 \\ -1 & 2 \\ 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & 2 & 1 \\ 1 & 2 & 3 \end{bmatrix}$, then verify that

(i) $(A + B)' = A' + B'$ (ii) $(A - B)' = A' - B'$

4. If $A' = \begin{bmatrix} -2 & 3 \\ 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & 0 \\ 1 & 2 \end{bmatrix}$, then find $(A + 2B)'$

5. For the matrices A and B, verify that $(AB)' = B'A'$, where

(i) $A = \begin{bmatrix} 1 \\ -4 \\ 3 \end{bmatrix}$, $B = \begin{bmatrix} -1 & 2 & 1 \end{bmatrix}$ (ii) $A = \begin{bmatrix} 0 \\ 1 \\ 2 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 5 & 7 \end{bmatrix}$

6. If (i) $A=\begin{bmatrix}\cos\alpha & \sin\alpha\\ -\sin\alpha & \cos\alpha\end{bmatrix}$, then verify that $A'A = I$

(ii) If $A=\begin{bmatrix}\sin\alpha & \cos\alpha\\ -\cos\alpha & \sin\alpha\end{bmatrix}$, then verify that $A'A = I$

7. (i) Show that the matrix $A=\begin{bmatrix}1 & -1 & 5\\ -1 & 2 & 1\\ 5 & 1 & 3\end{bmatrix}$ is a symmetric matrix.

(ii) Show that the matrix $A=\begin{bmatrix}0 & 1 & -1\\ -1 & 0 & 1\\ 1 & -1 & 0\end{bmatrix}$ is a skew symmetric matrix.

8. For the matrix $A=\begin{bmatrix}1 & 5\\ 6 & 7\end{bmatrix}$, verify that

(i) $(A + A')$ is a symmetric matrix

(ii) $(A - A')$ is a skew symmetric matrix

9. Find $\frac{1}{2}(A+A')$ and $\frac{1}{2}(A-A')$, when $A=\begin{bmatrix}0 & a & b\\ -a & 0 & c\\ -b & -c & 0\end{bmatrix}$

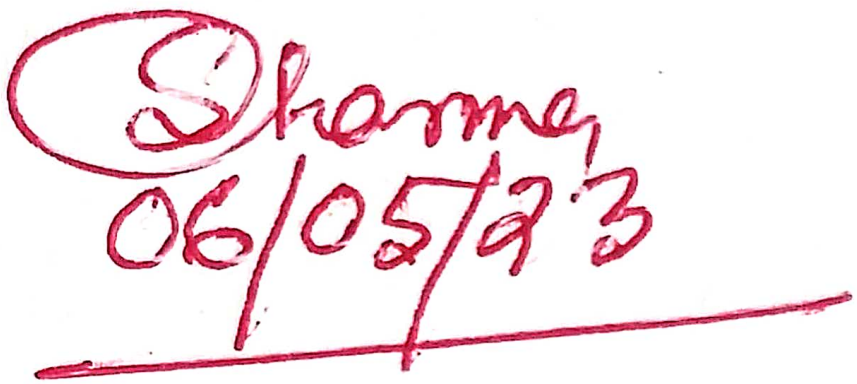
10. Express the following matrices as the sum of a symmetric and a skew symmetric matrix:

(i) $\begin{bmatrix}3 & 5\\ 1 & -1\end{bmatrix}$

(ii) $\begin{bmatrix}6 & -2 & 2\\ -2 & 3 & -1\\ 2 & -1 & 3\end{bmatrix}$

(iii) $\begin{bmatrix}3 & 3 & -1\\ -2 & -2 & 1\\ -4 & -5 & 2\end{bmatrix}$

(iv) $\begin{bmatrix}1 & 5\\ -1 & 2\end{bmatrix}$


Sharma
06/05/23

KENDRIYA VIDYALAYA PANISAGAR

HOLIDAY HOMEWORK 2023-24

SUBJECT - ENGLISH

CLASS– XII

A. Prepare a draft or plan of action for anyone of the following four projects :

1. Interview Based Research (Report)

2. Review of Podcast/ Documentary (Report)

3. Self created Video content on any relevant topic (Script & Recording)

4. Skit on a Social Issue (Script & Recording)

B. Install the following apps from Google Playstore in your personal smartphone or in your family smartphone. After installation, open the apps and use the apps for learning English and note down the important /new/tough words .

1. Livio English Dictionary

2. Offline Pocket Thesaurus

3. BBC Learning English

4. ePathshala

5. Google Translate

6. Google Lens

7. Sounds Right

8. Duolingo

9. English Speaking Practice

C. Download and listen to minimum 2 audio books as per your choice from the following websites and write down the summary.

1. http://www.loyalbooks.com/

2. https://librivox.org/

D. Write anyone (or more than one) of the following . Don't plagiarise. Write your own thing.

1. Poem

2. Article

3. Story

4. Comics

5. Book Review

6. Travelogue .

E. Click the link and complete minimum 5 listening tasks as per your choice
https://learnenglish.britishcouncil.org/skills/listening
