




**Sri Krishan Sagar Public School**  
**Maharishi Nagar , Sector-104, Noida**  
**Holiday Homework**  
**Summer Vacation (2022-23)**

**XII-PCB**

<b>PHYSICS</b>	<p>Working Model(Ohm's Law)</p> <p>1.You have to use two wire of different length connecting to same DC source and observing brightness in two cases.</p> <p>2.You have to use two wire of different cross-section connecting to same DC source and observing brightness in two cases.</p> <p>Summary Report</p> <p>1.You have to prepare Electricity bill calculation of your own house using various loads which is used in your house of one month.</p> <p>All calculation should be clear.</p>
<b>CHEMISTRY</b>	<p><a href="https://drive.google.com/file/d/11onLxjgwwjilksxyLLkLG_5sN94wwser/view?usp=drivesdk">https://drive.google.com/file/d/11onLxjgwwjilksxyLLkLG_5sN94wwser/view?usp=drivesdk</a></p>
<b>BIOLOGY</b>	<p style="text-align: center;"><b>Lab Manual work</b></p> <p><b>Major Exp-5</b>:-Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.</p> <p><a href="https://youtu.be/fQo4bqV29Gs">https://youtu.be/fQo4bqV29Gs</a></p> <p><a href="https://youtu.be/MBTxC89tniY">https://youtu.be/MBTxC89tniY</a></p> <p><a href="https://youtu.be/sFD1gUHMYwU">https://youtu.be/sFD1gUHMYwU</a></p> <p><b>Minor Exp-2</b>:-Study the plant population density by quadrat method.</p> <p><a href="https://youtu.be/hJnh4qXkC2E">https://youtu.be/hJnh4qXkC2E</a></p> <p><a href="https://youtu.be/zglLYMRB1FU">https://youtu.be/zglLYMRB1FU</a></p> <p><b>Slide Preparation 1</b>:- Prepare a temporary mount to observe pollen germination.</p> <p><b>Spotting</b>:-</p> <p>3- Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides.</p> <p>5. T.S. of blastula through permanent slides (Mammalian)</p> <p>Integrated individual Projects</p>
<b>PHYSICAL EDUCATION</b>	<p>1. <b>PREPARE NOTES OF</b></p> <p>UNIT I- Management of Sporting Events</p> <p>UNIT II- Children &amp; Women in Sports</p> <p>UNIT III- Yoga as Preventive measure for Lifestyle Disease</p> <p>UNIT V- Sports &amp; Nutrition</p> <p>2. <b>PROJECT OF:</b></p> <p>(I) MANAGEMENT OF SPORTING EVENTS</p> 

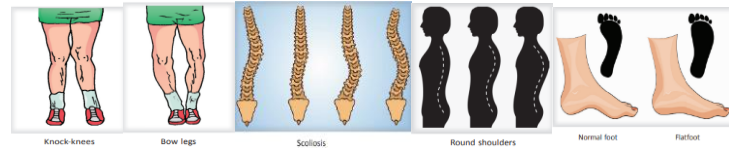
1. Conduct the tournament choose any game of your choice

2. Requirement of conduct the tournament

Planning, committees, select type of tournament, draw the fixture according to type of tournament, show the result of tournament

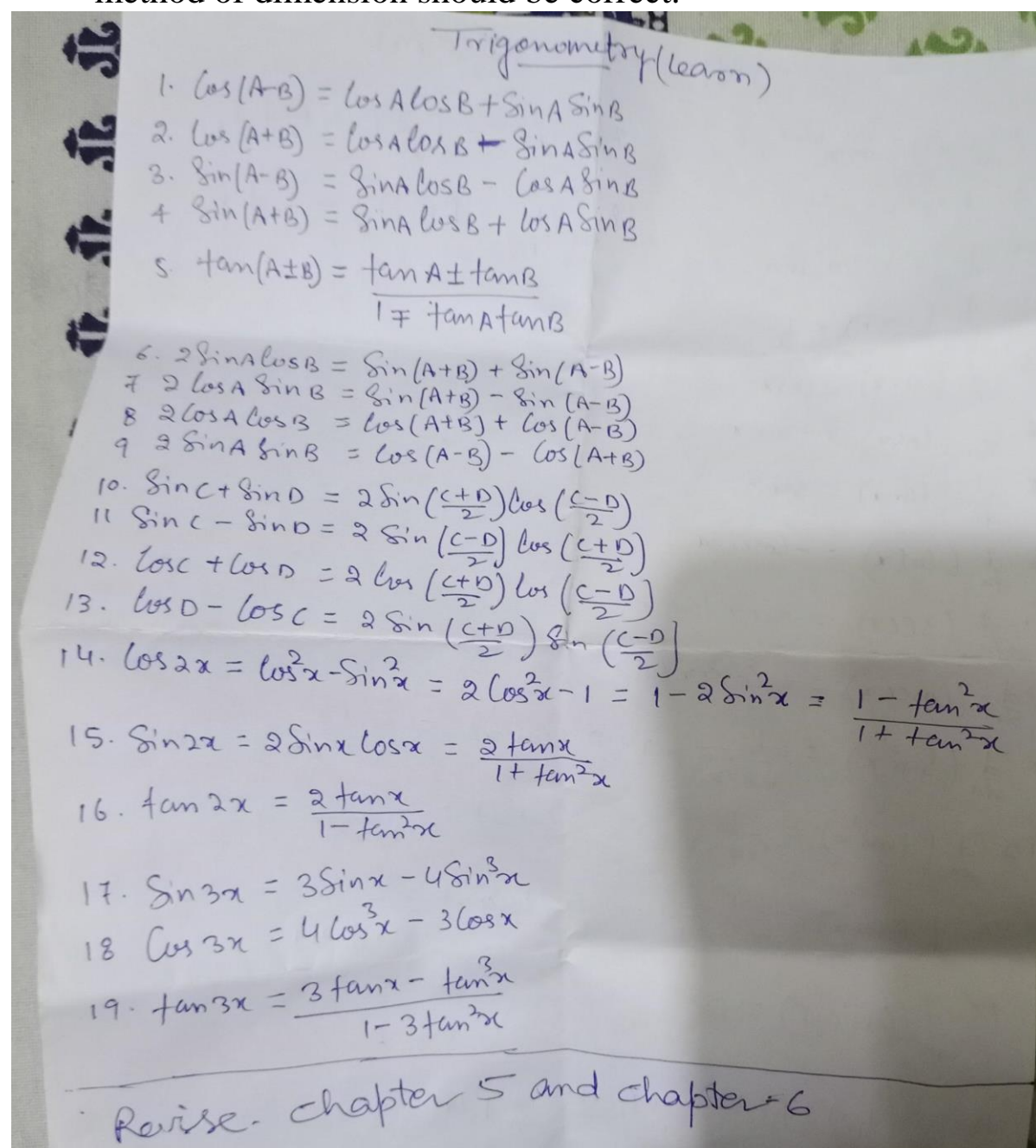
### (ii) CHILDREN & WOMEN IN SPORTS

Design a poster to be put up on the school Notice Board urging students to maintain good posture. Highlight the ill effects of poor posture, and their corrective measures.



Speak with people around you and survey them to identify who all are actually consciously or subconsciously having bad body postures. Document these interactions and share the best exercises and diet plan to correct the wrong body postures. Prepare a detailed report in 3~5 pages.

- 1) To make a box of maximum of volume by cutting four equal squares from each corners. Verify it by second derivative
- 2) Take a wire of any length and cut from such length from which we get square and circle of minimum area verify it mathematically.
- 3) Make a bottle of 2 liter in cylindrical shape in which the material must be minimum. Then what should be the dimensions of bottle from which mathematical method of dimension should be correct.



## MATHEMATICS

Integration

①

$$\int x^n dx = \frac{x^{n+1}}{n+1} + C$$

$$\int \frac{1}{x} dx = \log x + C$$

$$\int e^x dx = e^x + C$$

$$\int a^x dx = \frac{a^x}{\log a} + C$$

$$\int 1 dx = x + C$$

$$\int \sin x dx = -\cos x + C$$

$$\int \cos x dx = \sin x + C$$

$$\int \tan x dx = -\log |\cos x| + C$$

$$\int \cot x dx = \log |\sin x| + C$$

$$\int \sec x dx = \log |\sec x + \tan x| + C$$

$$\int \csc x dx = \log |\csc x - \cot x| + C$$

$$\int \sec^2 x dx = \tan x + C$$

$$\int \csc^2 x dx = -\cot x + C$$

$$\int \sec x \tan x dx = \sec x + C$$

$$\int \csc x \cot x dx = -\csc x + C$$

$$\int \frac{1}{\sqrt{1-x^2}} dx = \sin^{-1} x + C = -\cos^{-1} x + C$$

$$\int \frac{1}{1+x^2} dx = \tan^{-1} x + C = -\cot^{-1} x + C$$

$$\int \frac{1}{x\sqrt{x^2-1}} dx = \sec^{-1} x + C = -\csc^{-1} x + C$$

$\tan^2 x = \sec^2 x - 1$   
 $\cot^2 x = \csc^2 x - 1$   
 $2 \sin^2 x = 1 - \cos 2x$   
 $2 \cos^2 x = 1 + \cos 2x$   
 $2 \sin A \cos B = \sin(A+B) + \sin(A-B)$   
 $2 \cos A \cos B = \cos(A+B) + \cos(A-B)$   
 $2 \sin A \sin B = \cos(A-B) - \cos(A+B)$

By Parts

$$\int f_1 f_2 dx = f_1 \int f_2 dx - \int \left( \frac{df_1}{dx} \int f_2 dx \right) dx + C$$

S → Inverse function →  $\sin^{-1} x, \cos^{-1} x, \tan^{-1} x$  etc  
 L → Logarithmic f<sup>n</sup>. Ex.  $\log x, \log \sin x, \log(x^2+3)$  etc  
 A → Algebraic →  $x, x^2, x^2+3, \frac{1}{x^2+2}$  etc  
 T → Trigonometry →  $\sin x, \cos x, \sin^2 x, \tan x$  etc  
 E → Exponential →  $e^x, e^{x^2+3}, e^{\sin x}$  etc

$$\int \frac{dx}{x^2-a^2} = \frac{1}{2a} \log \left| \frac{x-a}{x+a} \right| + C$$

$$\int \frac{dx}{a^2-x^2} = \frac{1}{2a} \log \left| \frac{a+x}{a-x} \right| + C$$

$$\int \frac{dx}{a^2+x^2} = \frac{1}{a} \tan^{-1} \frac{x}{a} + C$$

$$\int \frac{dx}{\sqrt{x^2-a^2}} = \log |x + \sqrt{x^2-a^2}| + C$$

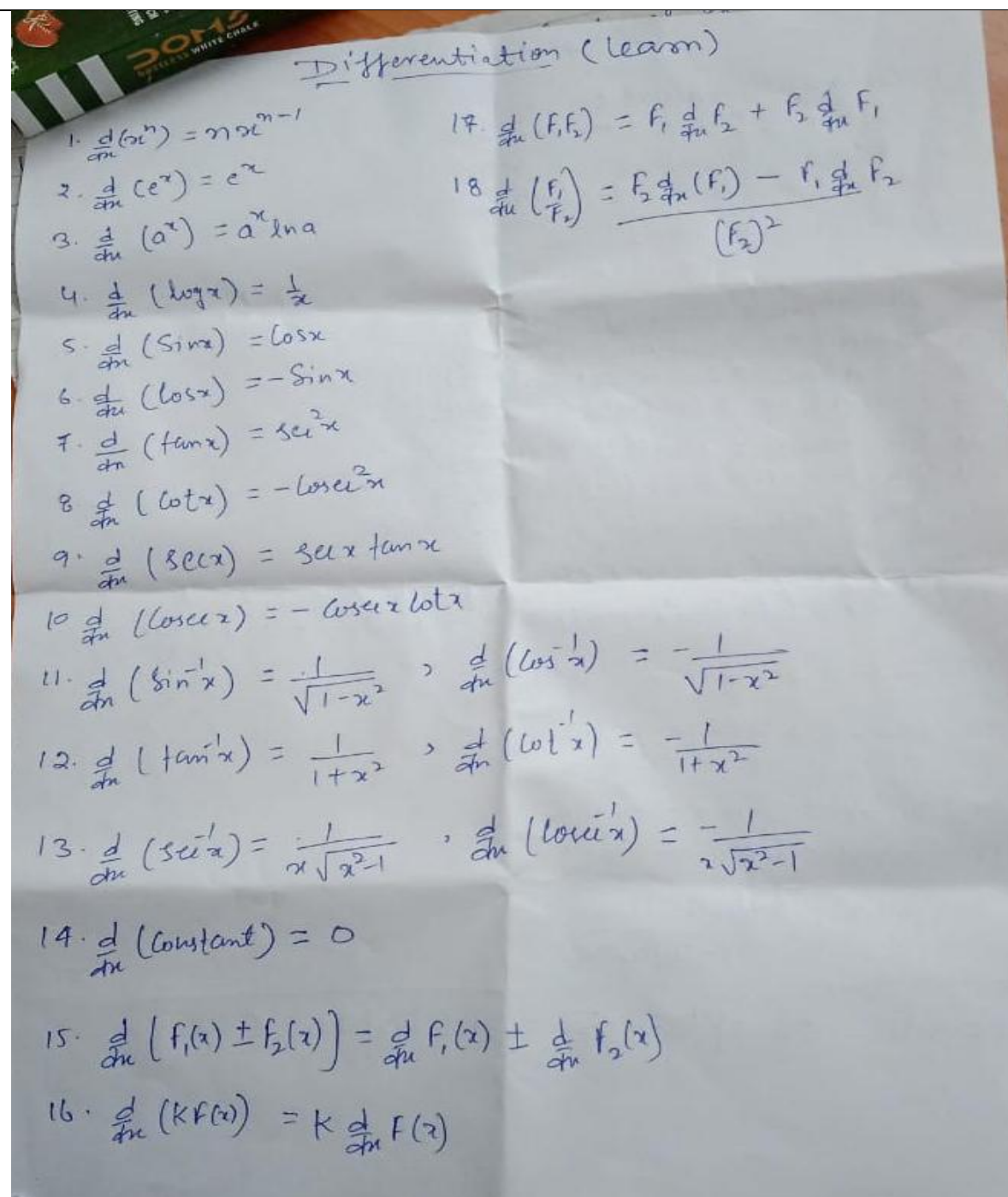
$$\int \frac{dx}{\sqrt{x^2+a^2}} = \log |x + \sqrt{x^2+a^2}| + C$$

$$\int \frac{dx}{\sqrt{a^2-x^2}} = \sin^{-1} \left( \frac{x}{a} \right) + C$$

$$\int \sqrt{x^2-a^2} dx = \frac{x}{2} \sqrt{x^2-a^2} - \frac{a^2}{2} \log |x + \sqrt{x^2-a^2}| + C$$

$$\int \sqrt{x^2+a^2} dx = \frac{x}{2} \sqrt{x^2+a^2} + \frac{a^2}{2} \log |x + \sqrt{x^2+a^2}| + C$$

$$\int \sqrt{a^2-x^2} dx = \frac{x}{2} \sqrt{a^2-x^2} + \frac{a^2}{2} \sin^{-1} \frac{x}{a} + C$$



**You can watch this video to understand the concept of sustainable development in easy words-**

<https://youtu.be/D7-J0MFiNFQ>

**Now , Let's Know know about Sustainable Development Goals. Click or paste the below URL in Google search engine address bar –**

<https://www.undp.org/sustainable-development-goals>

**Based on your understanding of Sustainable Development, Now, do the below Questions in any 10-20 pages A4 size Notebook ;**

1. You are Raman/Reeta, Head Boy/Girl of Vivekananda Public School , Rohtak. Write a notice in not more than 50 words informing Students about an exhibition to be held in Pragati Maidan, New Delhi in which major global manufacturers will be showcasing their products to meet sustainable development goals .
2. You are Rohit/Rohini , a resident of A 37, Swarnim Vihar , Sector 82 , Noida. You have recently read a news on shortage of coal in India and its impact on electricity generation . Write a letter to the editor urging people to switch to solar energy for their domestic use to meet sustainable development goals.
3. You are Siddharth / Sneha , Incharge of Eco club of your school. An awareness programme was conducted in your school on Sustainable Development last week that included a speech by Principal , followed by poster making , a quiz session and a short play written and directed by the students. Write a report for your school magazine- Wave , in 120-150 words mentioning date, venue activities and response of participants.
4. Roll No-wise Activities for students-

**ENGLISH**

Roll No Range	Activity
1 to 10	Prepare a Questionnaire for a survey on Use of plastic and its negative effects on environment
11 to 20	Write a script for interview any famous Environmentalist on the deteriorating condition of Earth
21 to 30	Listen to a podcast on Sustainable Development and write a report on it
31 to 35	Watch any documentary related to any of the Sustainable Development Goals and write its synopsis

## HINDI

- १) कोई भी एक प्रोजेक्ट बनाएं-(परियोजना की शब्द सीमा 350 शब्दों की होनी चाहिए)
- क) हिंदी कविता में प्रकृति चित्रण  
अथवा  
ख) भारतीय ग्रामीण जीवन ( पाठ भक्तिन पर आधारित)  
अथवा  
ग) मानव जीवन में संचार का महत्व
- २) इकाई परीक्षण (Periodic 1) का समस्त पाठ्यक्रम स्मरण करें।
- ३) अपने बचपन की स्मृतियों को आधार बनाकर एक कविता लिखने का प्रयत्न करें।
- ४) आप जिस व्यक्ति से सर्वाधिक प्रभावित हैं उसके व्यक्तित्व की विशेषताओं को अपने शब्दों में लिखिए।
- ५) यदि आपको किसी साहित्यकार से मिलने का मौका मिले तो आप क्या पूछना चाहोगे और क्यों?
- ६) 'ईर्ष्या' मनुष्य की प्रवृत्तियों (स्वाभाविक) में एक अवगुण है अपने विचार लिखिए।
- ७) अभिव्यक्ति और माध्यम:-  
विभिन्न संचार माध्यमों-प्रिंट, रेडियो, टेलीविजन, इंटरनेट से जुड़ी पांच-पांच खूबियाँ और खामियों को चित्र सहित लिखते हुए एक तालिका तैयार करें।
- ८) पत्र लेखन:-  
अपने मोहल्ले के आस-पास की समस्याओं पर नजर डालें।  
जैसे-पानी की कमी, बिजली की कटौती, खराब सड़कें, सफाई की दुर्व्यवस्था आदि समस्या पर सुझाव देते हुए संपादक को पत्र लिखें।
- १०) जरूरतमंद की सहायता करते हुए फोटो खींचे तथा पीपीटी बनाई है। (वृद्धा आश्रम, बाढ़ पीड़ित, गरीब बच्चे आदि)